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GEO. GILLETT THOMAS, M. D., } **Editors.**

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ORIGINAL COMMUNICATIONS.

CLINICAL LECTURE ON CHRONIC STRUMOUS DISEASE OF THE ANKLE-JOINT, AND UPON METHODS OF AMPUTATION OF THE LEG.

By R. A. Kinloch, M.D., Professor of Surgery Medical College of the State of South Carolina, delivered at the City Hospital, Charleston, S. C., October 18, 1886.

Gentlemen:—This is the first of my clinical days for this session, and, as an elementary subject will not be inappropriate, I shall bring before you a case of chronic disease of the ankle-joint, in this colored adult who is before you, and whom you see is much emaciated, and has a haggard look from long suffering. The joint is greatly enlarged, and its conformation altered; here are several fistulous openings upon either side, discharging a thin purulent fluid; the sufferer winces and complains when, using the foot as a lever, I disturb the diseased joint. The true pathology, or special disease, of the articulation I shall explain to you directly. I regard the operation of amputation through the leg as the means most likely to afford relief, and I shall first invite your attention to some points connected with such operation.

Many, if not all of you, know what we mean by an amputation. For the benefit of the beginners let me say that we use the term to signify the removal of a limb, or the portion of a limb, from the body. We, in such removal, either operate through the continuity of the bones or through the joints. Amputations in the earlier ages of surgery were justly regarded as opprobia of the art, and justly so, when there was no proper provision for controlling hæmorrhage, and when death was the rule, and not the exception. With the knowledge of anatomy and the use of the tourniquet and the ligature, things have changed, and an amputation is now often one of the greatest triumphs of the surgeon. When such operation is judiciously selected to remove disease, otherwise incurable, to relieve suffering, to overcome deformity, to restore or increase the usefulness of a member, or to preserve life, surely it is a warrantable procedure, and one that we can be proud of.

After determining upon an amputation, we have always to consider, *first*, the point to be selected for the operation; and *next*, the particular method to be practiced. The point may be selected because of the greater safety insured to the patient; or have reference mainly to the future usefulness of the limb. As a rule the nearer such operations approach the trunk the greater the danger to the life of the patient. Hence many surgeons contend that there should be left as much of a limb as is possible, if by so doing there be no violation of fixed surgical principles. If, however, the future usefulness of the limb be called into question, we have often to depart to a certain extent from so arbitrary a rule of practice. This very question has been much discussed in the case of amputations of the leg. Where the operation is done three or four fingers'-breadth below the knee, the stump can be flexed and the individual have firm support by resting the lower broad anterior end of the femur upon what we call a peg-leg. For a poor working man this kind of leg is inexpensive, and it admirably sustains the weight of the body. If amputation is practiced through the middle of the leg, or just above the ankle, the artificial leg must be a kind of hollow cone in which is received the long stump, and the weight of the body has to be borne by the thigh and leg, adjusted to the artificial limb by a peculiar arrangement which prevents undue pressure because of many parts sharing in the support of the weight. Such a limb is beautifully made at the present day, but it is expensive and often unsatisfactory where the wearer has to be upon his feet long at a time. Sometimes we must yield to the prejudices of the sufferer himself, who has a fancy for preserving as long a limb as possible. For this reason I propose to give this man a long stump.

In certain cases the principles of surgery admit of no choice. For instance, if we are to operate for malignant disease, we must go far above its seat, so as to leave behind no diseased elements. Or, again, in certain cases of severe injury, as in railroad accidents, where there has been crushing force and great tearing and dragging of the tegumentary and other soft tissues, experience proves that if the operation is done near to the injury, although the skin looks sound, the stump will slowly mortify. The vitality of the parts are affected higher up than would be supposed because of the injury to the nutrient vessels, and hence such parts slough at a later period. Never forget this important fact, for it will save you from having to do many secondary operations. I will shortly explain to you how the nature of the diseased condition before us will necessitate my operating well above the joints.

Next, the point for operation being agreed upon, we must choose a special method of operating. For the leg we have a choice of many methods. Each surgeon can suit his fancy. Usually the method is determined by the kind of covering it will give the bones of the stump, or by the facility or celerity with which it can be executed, or by the evil consequences it enables us to avoid, or because of the likelihood of its yielding quick union. A purely circular incision, with tegumentary flap, used to be greatly in vogue, and is yet practiced by some. It is tedious to turn up the flap, like I do the cuff of my sleeve, and this cannot be done where the leg is muscular and conical. Such a flap comes together like the mouth of a purse, and this is preventive of union by the first intention. I never practice or recommend such a method. I also am disposed to reject antero-posterior flaps, whether tegumentary or in part muscular, for the edge of the cut tibia is apt to induce ulceration of the anterior flap, or the weight of the posterior flap prevents union. There is greater danger of necrosis of the bone and of a conical stump after this method. I rather prefer the lateral skin flaps of equal size, or the "hood-flap" of Dr. Stephen Smith of New York. This latter, however, is not as easily turned up as are the lateral flaps, and moreover, when the sutures are adjusted, it is found that there is a superfluity of tissue, above and over the tibia, which rather opposes primary union, and does not readily permit of the covering adapting itself to the bones.

The drainage with the hood flap is no better insured than it is with lateral flaps. I propose, then, upon this occasion, to select the lateral tegumentary flaps. Before proceeding to operate I will look to the instruments to be used. Never trust this entirely to your assistants. When you wish a knife, or a saw, or a forceps, or a ligature, or a tourniquet, these should all be at hand. A belief in modern antiseptic surgery leads one to be more particular as to all the details in operations, and the character of the instruments, dressings, etc. I cannot now go into the details of this matter, but will only say that I have great faith in certain cardinal features of antiseptic surgery. There must be cleanliness as to hands and person, as to instruments and sponges, absolute arrest of bleeding, security as to drainage, nice adjustment of the wound, proper support or rest of parts; ligatures and sutures should be antiseptic. As to the use of agents for killing or excluding germs, or for preventing decomposition of the inflammatory products, I shall not pass an opinion, except to say that the use of many of these cannot be objectionable, as they do not oppose cleanliness or act as irritants. I have a personal objection, however, to some of the strong solutions because of their effect upon my hands. I have for two seasons suffered much from this cause, and I am almost disposed, in cleansing wounds, to go back to pure water that has been boiled.

Now we will do the operation: Esmarch's bandage has been applied to enable us to have a bloodless operation. I stand upon the outside of the leg (right leg) and make the lateral flaps by first entering the point of the knife behind in the middle of the leg, then cutting upwards, or towards me, I complete a semi-lunar incision at the spine of the tibia in front. The other flap is made by simply reversing the direction of the cutting, now upon the side nearest me, and ending the second incision where I began the first, upon the under side of the limb. The two flaps are quickly turned up, then the deeper structures are cut through by a circular sweep of the knife, the inter-osseous muscles and membrane divided and the bones sawed. The next step is to secure the arteries. I will turn this duty and the dressing of the stump over to my assistants, while I show you the diseased joint and remark upon its characteristics.

I have already called your attention to the enlargement of the joint, the thickened structures, the fistulæ upon either side. The movements of the joint were necessarily restricted and painful because of the infiltration of the tissues and the contracted ligaments. A rough grating is readily perceived, as I manipulate the foot and try to flex and extend it upon the leg. The enlargement of the joint is not uniform, but, as you see, there is fulness in front and beneath the extensor tendons, while the most marked swelling is upon each side, below and around the maleoli. This gives increased width to the joint, noticeable most when looking at it from behind. Always when examining a case of suspected joint disease, observe carefully the character of the swelling; don't confound an enlargement of a neighboring bursa, or an effusion into tendinous sheaths, with disease of the joint proper. You will, however, often find such conditions complicating joint diseases. Diseases of the several articulations may be either acute or chronic. Different diseases or diseased conditions, involve distinct portions of joint structure. The origin of disease is at times in one structure and again in another structure; finally all of the structures may become involved in the pathological change. Most commonly, perhaps, disease begins in the synovial membrane, or in the ends of the bones. Besides these, as you know, we have cartilages, ligaments and the soft structures exterior to the joints. With such complicated relations, it is natural that diseases of the joints should present the most complicated features or varied pathological conditions. As to cause, disease is at times traceable to traumatic injuries, slight or severe; or it is developed as an expression, as it were, of a diathesis; or because of some special neoplasm or specific infiltrations. The experienced surgeon learns to take in all of these matters at a glance.

But to turn to the particular case before us. We have here certainly a chronic disease with the most destructive changes. The history runs back certainly over a year; the origin is doubtful, but we have no certain evidences of traumatism. I will cut into the joint, and I expect to find cartilages destroyed, bones carious, synovial membrane thickened and pulpy. See! I am correct! Notice the ends of the bones, tibia and fibula enlarged, softened and crumbling, the cartilages of incrustation gone; here are small abscess cavities, secreted in the thickened and softened tissues. These tissues, that is to say, the synovial membrane, ligaments and exterior soft parts are blended together, gelatinized, thick and pulpy. The disease we have had to deal with is *chronic strumous arthritis*—the white swelling of old authors, the pulpy degeneration of the synovial membrane of some, the purgating joint disease of others. Look how this pulpy material seems to extend everywhere as by infiltration; it literally looks as though it had been preying upon all the tissues, or converting them into a like structure. Regarded as a strumous disease, we have here a kind of tuberculosis of the joint. This is a typical example. Such disease is common in hospitals, common among the poor and with young subjects, common with the negro race, and more especially with the mulatto, who is a kind of hybrid, and frequently presents us with strumous affections.

For the relief of this kind of joint disease general treatment of a nutritive and restorative kind, together with iodine, iron, cod-liver oil, etc., avails somewhat in the incipient stages. Absolute rest of the joints, extension and counter-extension are frequently effective means. In the latter stages, sometimes resection of the joint may take the place of amputation in a certain class of subjects. Again, in some of the articulations the diseased material may be scooped out until healthy tissue is reached upon all sides. I have not time to day to enter upon all these questions. Our patient is most likely to recover promptly, and to be restored to health, at least for a time. I, however, always fear in this class of subjects a renewal of the disease elsewhere, a transfer, as it were, of the morbid condition to other joints, or perhaps to more vital organs, where struma is prone to manifest itself, and where surgery cannot follow.

REDUCTION OF COPPER IN FEHLING'S SOLUTION WITH CHLORAL HYDRATE.—WOODSTOOK, VT.. November 12, 1886.—*Mr. Editor*:—On applying Fehling's test to a specimen of urine sent to me for examination, I found the copper reduced as with diabetic urine, while the specific gravity was only 1015. On inquiry, I found that a few grains of chloral hydrate had been added to the urine to prevent decomposition. On further trial I found that a very weak solution of chloral hydrate in clear water would reduce the copper. I have since experimented with it in different solutions and varying strength, and always with the same results. In two cases, after the internal administration of medicinal doses of chloral, the characteristic reaction was produced on testing the urine with the copper solution. Two days afterwards the urine in neither case showed any signs of sugar. The fact that chloral hydrate would reduce the copper solutions if added to urine, was new to me, and I think is not generally known. I do not remember seeing any mention of it in the text-books or journals. Further investigation regarding the effect on the urine of the internal use of chloral is desirable. Very truly yours,

O. W. SHERWIN, M.D.

—*Boston Medical and Surgical Journal.*

TWO CASES OF CHRONIC ABSCESS OF THE ANTRUM SIMULATING CHRONIC NASAL CATARRH.

By David B. Frontis, M.D, Wadesborough, N. C.

The history of the following cases of chronic abscess of the antrum present some points of interest:

Case 1.—J. H., aged 40, farmer, presented himself at my office, May, 1885, and reported himself a sufferer from chronic nasal catarrh for the past two years, for which he desired treatment.

He had been under the care of two physicians, previously, with temporary benefit, and as usual in such cases, had taken an immense quantity of "Catarrh Specifics."

On examination I found his trouble located in right nostril. No deviation of septum, no obstruction to respiration. Viewed through the speculum, the mucous membrane appeared very much congested, deep red and rather sodden-looking. Little particles of a thick, tenacious muco-purulent discharge could be seen distributed throughout nasal cavity, but more especially on septum and inferior turbinated bones. Viewed orally, the upper part of pharynx appeared congested also, but I saw no discharge. No protrusion of hard palate. Patient says that the nasal discharge varies from time to time; when abundant he uses as many as three handkerchiefs a day, and hawks and spits it also. At times has a troublesome cough. Odor also varies, sometimes very fetid, but ordinarily only moderately so. Complains of no pain except occasional headache, and sometimes has pain over right eye, with occasional spasm of right orbicular muscle. He has lost weight gradually, and there is great physical prostration and loss of energy. Is not able to take long walks without feeling exhausted. Appetite good. Thinks he has some hectic fever at times. There is some alteration of voice; cannot sing as formerly. The only point he can give in regard to the origin of his trouble is that in April, 1883, he suffered from an attack of what he and his physician called facial neuralgia. On one occasion he blew from his nostril bloody pus, not offensive. Shortly afterwards he noticed a little discharge of an offensive character, which slowly increased. On careful enquiry he did not remember any swelling and did not think he had much fever. Has suffered with toothache and has had second upper molar on right side extracted. I was led to suspect abscess of the antrum from having read an article by Dr. Goodwillie, of New York, on "The Antrum of Highmore and some of Its Diseases," in the *Medical News* of September 20, 1884. I made careful percussion with Flint's hammer and pleximeter over right cheek-bone at junction of molar with superior maxilla; on the right side this gave forth a peculiar, dull, cracked sound, entirely different from the clear resonance on the left side. The sound was so different that it attracted the patient's attention at once. I now felt satisfied that there was some trouble in the antrum, although there was no swelling, either externally or on palate. I took the patient to the office of my friend, Dr. H. H. DePew, dentist, who found that the gum had never healed over, when the second upper molar had been extracted, and that it was in a very unhealthy condition. He extracted a small bit of necrosed alveolar border, also the first molar, as it was also decayed. An opening was very easily made from the root of second molar into antrum. A dentist's syringe was now inserted into this opening and a stream of warm water forced through the nostril. This brought out a large quantity of fearfully offensive, thick, grumous pus. Almost immediately the patient expressed himself as feeling as if relieved from an immense burden. A tube made from a hard rubber Eustachian catheter was then inserted into antrum through this artificial opening. The antrum was to be carefully syringed out with a wash of phenol-sodium, 20 drops to ℥ j water three times a day. Listerine, ʒ j to ℥ j water was afterwards substituted, and finally iodoform diluted with lycopodium was blown into antrum with the ordinary powder-blower every second day until the cure was complete, which was in about four months after the operation. I had the hearty coöperation of my patient in carrying out the details of this treatment. The hard rubber tube would occasionally be lost, and possessing great mechanical ingenuity, he learned to make these from the back of an ordinary rubber comb, and would insert it himself. His improvement was rapid and striking. Hectic fevers, cough and headache ceased at once. Gained in flesh and strength rapidly. Vocal powers were completely restored. Six months after operation was heavier than for several years past.

Case 2.—B. E., male, aged 21, September 9. This patient also applied to me for treatment for chronic nasal catarrh and for a troublesome cough, but was especially alarmed about the cough. Examined his chest first, and found resonance slightly diminished over left apex with a few dry sibilant rales on full inspiration. Respiration 30, expiration not prolonged. Pulse 100. Attributed this partly to excitement, as he seemed very uneasy about himself. Temperature 101°. Examination of nasal cavities revealed the trouble located in left nostril. Mucous membrane intensely red, but not presenting the swollen, boggy appearance of Case 1. There was no deviation of septum or obstruction. Dilating nostril widely, and with a good reflected light, I could see the opening from the antrum close to upper border of inferior turbinated bone. It appeared ashy white, and around this opening the discharge was most abundant and faded off from this point. The discharge seemed to gravitate towards posterior part of middle meatus. On septum scarcely none could be seen. The character of this discharge was different from Case 2 ; it was thinner, but tenacious and of a dirty or ashy white color, resembling the discharge from a scrofulous gland. Pharynx on left side was deeply congested, but at the time of my examination saw none of this nasal discharge on its surface. Percussion over left cheek gave a resonance somewhat different from right side, but by no means so distinct as in Case 1. No swelling externally or orally. First and second left upper molar teeth slightly decayed. He had absolutely no recollection of any symptoms pointing to acute abscess of the antrum. Has had severe headache, more especially over left eye. Health has been failing for six or eight months. Has been having dumb chills and slight night-sweats.

I gave a very guarded opinion about this case. While I was pretty certain he had a chronic antral abscess, yet, with the slight diminution of resonance over left apex, the increase in frequency of pulse and respiration, the temperature, taken in connection with the history of rigors and night-sweats, I felt almost equally certain that it was a case of incipient phthisis. Family history fairly good. One sister died of consumption. Mother is still living in good health, and father died at an advanced age. I advised an opening into antrum, although I could not promise that it would relieve all his symptoms. Put him on tonic treatment, and he returned September 15th to have the operation performed. Dr. Brown, of Ansonville, his family dentist, kindly did the mechanical work for me, extracting first and second upper molars on left side and drilling an opening into antrum from the cavity of root of second molar. The roots of first molar were sound, but those of second were very much diseased and were offensive. A dentist's syringe was again inserted into antrum and a stream of warm water forced through brought out a quantity of thin, very offensive pus. This opening was enlarged to something more than an eighth of an inch in diameter, and a short, hard rubber tube inserted. Patient was directed to syringe out the cavity three times a day with a solution of phenol-sodique, 20 drops to ℥j water. In two weeks this was replaced by boroglyceride, 50 per cent. ʒj to ℥j water. In this case the hard rubber tube irradiates the gums so much that he did not succeed in wearing it very long, but the opening made did not close, and there was no trouble to introduce a properly curved syringe with which to wash out the antrum. After using boroglyceride one month, iodoform was tried, but he did not seem to be able to use it very effectually, so I returned to the boroglyceride. The local treatment in this case was supplemented by the administration of general tonics. Improvement was equally as striking as in Case 1. Chills, fever and night-sweats ceased at once. Examined two and a half months after operation. I failed to detect any trouble in lungs at all. Respiration, pulse and temperature all normal. Weight greater now than it ever was. The discharge from the nostril has not entirely ceased. This young man did not take the interest in the treatment of his case that my first patient did. As he lived some distance he only came to my office about once in a fortnight. I have decided that if improvement does not continue, to make an opening into antrum from the interior meatus, so as to get better drainage and facilitate the cleansing of the cavity.

The usual causes enumerated of chronic nasal catarrh are frequent colds, enlarged tonsils, elongated uvula obstruction from deviation of septum, contact of superior and middle turbinated bones with septum, abuse of tobacco, snuff and vitiated atmosphere. None of the works on practice that I have access to, including Reynolds' and Pepper's System of Medicine, make any allusion to antral abscess as a causative factor. Dr. Goodwillie, in his article referred to above, says:

"Catarrh of the antrum is a disease in its earlier stage too little recognized. It co-exists with catarrh of the nasal cavity, and is often the primary cause. The opening from the antral cavity becomes enlarged, and the fetid catarrhal secretion passes into the nasal cavity."

In Dr. Goodwillie's cases the symptoms of antral abscess were prominent and unmistakable, and they were treated for the antral disease. In my cases the nasal catarrh was the prominent disease, and the resual symptoms of antral abscess were conspicuous by their absence. There had never been any throbbing pain, with heat, redness or swelling. No chills or fever at the outset. No bulging of antral wall had ever been detected. Unquestionably both cases originated from a pulpitis : in the first case probably suppuration, opening into antrum and discharging suddenly into nasal cavity, as detailed in the history. In the second case the process was probably slower. The pulpitis extending by contiguity to walls of antrum, and setting up a chronic inflammation and catarrh of this cavity. Hence we readily see that the nature of this discharge may vary from a thin catarrhal secretion to a thick purulent one. It is also evident that the odor would vary, being least when discharge was least and drainage most perfect, and greatest when the opposite condition prevailed. In neither patient was the odor ever so disagreeable as to be noticed by a companion.

The cough is an interesting study in these cases. In Case 1 cough was rather dry and hacking, at times troublesome, again almost entirely disappearing. In Case 2 the cough was the most alarming symptom to the patient, and, considered with the concomita, was a source of doubt and perplexity to the physician. Viewed in the light of the result, there can be no question but that in both instances it was a reflex nasal cough. *Dr. John Mackensie first described explicitly this reflex nasal cough and he found that the mucous membrane coursing the corpora cavernosa, and especially that upon the posterior extremity of the inferior turbinated bone and the septum immediately opposite, when stimulated either artificially or by local pathological processes, would result in the production of a reflex cough. The muco purulent discharge from the antrum gravitated over this posterior extremity of the inferior turbinated bone, producing a congestion and irritation which

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*Mackensie, Nasal Cough, *American Journal Medical Sciences*, July, 1883 finally resulted in the expression of this reflex cough. As soon as this source of irritation was removed, the cough ceased, and with it the entire train of symptoms that were so portentous of incipient pulmonary phthisis.

The gradual decline in health, loss of flesh, rigors and night-sweats were doubtless the result of a mild grade of septicæmia.

The very practical question now presents itself as to what per cent. of cases of chronic nasal catarrh have an origin in disease of the antrum. A village practitioner could never expect to see a sufficient number of cases to draw any valuable conclusions, but it is highly probable that a large proportion of those cases classed as unobstructive originate in this way. Since treating these cases I have noticed that *"Zeim holds that many cases of persistent ozoma and nasal blenorrhœa are kept up by disease of the mucous membrane of the antrum. The symptoms of this complication are very vague, and in no less than twenty-nine cases out of a total of thirty-seven in which he perforated the anterior wall, he found pus in the cavity."

Can the diagnosis be made more clearly? I am led to believe that often the nasal cavity can be sufficiently dilated to see the opening from the antrum into middle meatus; and if it can be seen it is not likely there will be found any difficulty in deciding whether the catarrhal secretion or muco-pus proceeds out of this operation or not. The configuration of the nasal walls was such that in Case 1 I could not get such a view, while it was comparatively easy in Case 2.

Percussion with the hammer and pleximeter gave valuable indications in my cases. But I am not inclined to put too much stress on this, for natural variations in the size of the two cavities might be misleading. I have tried percussion, however, over a number of antrums supposed to be healthy, without being able to detect any difference in the sounds. If the teeth did not show signs of decay on the diseased side, tapping them with a steel instrument would be apt to elicit pain if there was periostitis or pulpitis.

I would sum up thus:

1. Given a case of chronic nasal catarrh not dependent on obstruction or other discernible cause, *suspect antral disease.*

**American Journal Medical Sciences,* October, 1886, p. 557.

2. A positive diagnosis can be made if the normal opening between antrum and nasal cavity can be seen and the discharge be found most abundant here and to reproduce itself when wiped away.

3. A probable diagnosis can be made by noting carefully the difference in percussion resonance on the two sides. If both nares are affected no benefit could be expected from this.*

4. It would be additional evidence to find teeth diseased or tender on suspected side. If such be the case, they should be extracted at once, an opening drilled into antrum and the cavity washed out. This will clear up the diagnosis, and if a mistake has been made no harm will be done, as it is a very simple operation and a small opening will soon close.

5. Treatment consists in making a free opening, securing drainage with a tube, if possible, and cleansing cavity with antiseptic washes or powders. If unusually rebellious, make a counter opening from inferior meatus into antrum to facilitate more thorough cleansing. If the case be of long standing it may be necessary to treat locally the nasal mucous membrane also.

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Science speaks of recent experiments with the common tonic, the tincture of the chloride of iron, diluted with water, showing that when thus diluted it acts very injuriously upon the teeth. This is explained by the fact that the peroxide formed in the alcoholic solution is precipitated, when water is present, in such a flocculent form as not to adhere to the surface of the teeth, and consequently the free hydrochloric acid can act upon the lime-salts of the teeth without let or hindrance. When the tincture is given without water, no action takes place; the peroxide which is then formed is of the anhydrous form, and so compact as to adhere to the teeth and protect them from the action of the acid. These experiments have resulted in determining that there are three menstrua which can be used as diluents of this tincture, which will produce no injurious effects upon the teeth: they are alcohol in some form, Vichy water and a simple syrup.—*Boston Medical and Surgical Journal.*

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*I would remark here that both these patients thought that their catarrh existed on both sides, although worse on one. No doubt some of this irritating secretion would occasionally get on sound side, and if it could in sufficient quantity, would produce the same evidence of congestion and inflammation as are apparent in nares and naso-pharynx on the side of its origin.

REST FOR PAINFUL EYES; IS THIS ADVICE ALWAYS GOOD?

By JULIAN J. CHISOLM, M.D., Professor of Eye and Ear Diseases in the University of Maryland, Surgeon in Charge of the Presbyterian Eye and Ear Charity Hospital of Baltimore City, etc., etc.; read before the Baltimore Academy of Medicine, December 21, 1886.

When the eyes tire under much and long-continued use, relief naturally comes with rest, and we voluntarily desist from work so that the eyes may regain their normal condition of comfort; and this they rapidly do. This eye weariness, which comes on simultaneously with a tired feeling in the whole body, is not a painful condition. That it is a general discomfort which rest relieves, is familiar to us all as individuals, and hence we are ever ready to acquiesce in the proposal to rest our painful eyes, when such advice comes from the physician to whom we have appealed for treatment. *But is this advice always good?*

To answer correctly this very important question eye troubles must be classified into two great divisions.

First.—We have diseased states of the eyes, inflammatory in their nature, accompanied by pain, with other evidences of congestion, and often associated with blurred vision.

Second.—This great division comprises faults in eye construction, defects in the focusing power, errors in refraction, unaccompanied by visible congestions except on abusive use of the organ.

In one or the other of these two great classes most eye troubles can be placed.

When we see an eye that is red, watering, painful, and in many instances accompanied with blurred vision, whether this trouble be in one or in both eyes, we naturally and properly advise rest from eye work, while the inflammatory symptoms are being relieved by judicious medication. We even shut out the normal retinal stimulus, light, by smoked glasses or darkened rooms, and thereby add to the comfort of the patient.

All eyes, painful under use, are not necessarily inflamed ones. On the contrary, a very large number of the most annoying eye troubles are not dependent upon diseased conditions. The discomfort induced by the use of such eyes is occasioned by faults in the focusing power, necessitating over-use of the eye muscles, and subsequent pain in the eyes and head. Any disturbance of the system which causes temporarily general muscular debility, will diminish the force of the eye muscles and increase the tendency to head and eye pains. As these eye faults are most frequently congenital, starting with our very being, they often commence to show their injurious effects when young; growing and not necessarily overstrong eyes, are taxed in the acquisition of knowledge, and when the advice to rest these painful eyes for months at a time is a serious interference with school life and with education. In this classification is brought a very large number of young persons, whose eyes are badly shaped, and hence pain in them on use.

A well shaped eye should be nearly a sphere. In such a round eye the inner or retinal coat will receive the focused image, sharply defined, of distant objects, without aid from the muscles of accommodation. These important muscles, within such an eye-ball, are called into use when the eye is viewing near objects. Writing, reading and sewing are properly called eye work, because they require the need of the accommodating eye muscles. All other uses to which the eyes are put, except the viewing of near objects, mean rest. This of course is not rest from retinal work, which is going on actively as long as our eyes are opened, for as a rule the retina does not seem to tire. It means rest from intra-ocular muscular work. Such a round eye is called *emmetropic*, and is the type of a good one. This is the kind of eye that nature should always supply to the human race.

Unfortunately from this standard, deviations, detrimental to the comfortable uses of the organ, are found in numbers. Many children are born with eyes flattened from before backwards, so that the retina is brought too near the lens, and therefore in front of its normal focus plane. This flat eye is called over-sighted or *hyperopic*. Such a flat eye, when at rest, does not see even a distant object sharply. It needs muscular work for all purposes, to enable it to focus light from far as well as from near objects. Such an eye is never at rest during waking hours. As nature abhors a vacuum, so badly shaped eyes may be said to abhor badly defined pictures on the retina. An effort is made involuntarily by the flat eye to sharpen outlines and perfect the focus. This is always a muscular effort. When required for distant vision, as is always the case with flat eyes, some of the muscular force of the eye is used up, leaving less for the accommodating power in viewing small near objects. If the eye be very flat and the demand upon the muscular apparatus necessarily very great for even distant objects, then the moderate use of the eyes for reading soon exhausts the remaining muscular power. After reading for a short time the natural relaxation of the over-worked and tired muscles changes the focus of the lens, blurs the image upon the retina, and causes the letters of a page to run together. A little rest enables the muscles to resume work and the printed page to be again clearly seen, but a very few more minutes' use of the tired muscle again blurs the page. If the effort to read be persisted in, pain in the eyes and in the head ensues. If the muscular force be weakened by any acute disease, then the eyes give out the sooner. We experience this in children after measles, diphtheria, etc. Children who could study with comfort before the attack find themselves unable to read for any length of time afterwards. Often months are required before the eye muscles again become strong.

An eye may be so very short in its antero-posterior diameter that all the intra-ocular muscular power is required for viewing distant objects, leaving none for near work. Children with such badly shaped eyes cannot study, because from deficiency in the focusing power of the crystaline lens they cannot distinguish the shape of the small letters. The nervous apparatus of such an eye is good. The retina and optic nerve are perfect, but the picture thrown upon this retinal screen is blurred, solely for want of accurate focusing power. Add to the lens power, and perfect vision for small objects is at once obtained. The accidental use of their grandmother's glasses to aid the crystaline lens to focus a sharply defined image is a marvellous revelation to such an eye, and shows just what it requires to make it a strong, useful organ, viz: a pair of properly adjusted magnifying spectacles. With such scientific aid the child is in condition to undertake hard study, and seeing clearly becomes easy. Because over-exertion of the eye muscles is no longer required when the child wears properly selected glasses, no more pain in eyes and head is experienced during study hours.

Although rest from near work will always bring about relief from the pain consequent upon over muscular exertion, the advice so often given to parents by the family physician, to take hyperopic children from school, and let them rest their eyes from study, for months at a time, is bad, because it is founded on ignorance of the cause producing the trouble. At the end of six or twelve months the eye is just as misshaped as it was before the rest was taken, and application for near work will surely bring back the former painful discomfort. This is a matter of every day observation. Adjust proper glasses, correct the error of refraction, give the eye muscles less work to do by allowing the eye to do its work with spectacles on, and consequently without effort, is surely the rational course to be pursued. *With the aid of magnifying glasses for all uses a flat eye will need no rest. To rest such eyes with the expectation that they will become strong, is delusive, and is therefore bad advice.*

Again an eye may be misshaped from the round standard by being longer than it ought to be. An eye long in its antero-posterior diameter is more oval than round, and is called near-sighted or *myopic*, because it only sees near objects clearly. The retina is so far from the lens in long eyes that a focus of light from distant objects is made before the retinal screen is reached. When the picture is finally thrown upon the nerve-layer, it is illy defined and consequently blurred. Distant objects for such eyes are always befogged, unless the strength of the chrystaline lens is weakened and its focus lengthened by the use of concave or near-sighted glasses. As flat eyes were always congenital, so long eyes may be found at birth. As a rule, however, eyes acquire this condition and become misshaped by too much study in early school life. When an eye, previously good for seeing distant objects, changes shape and becomes near-sighted, the change indicates a yielding of the sclerotic or outer tough coat, which is the sustaining wall of the eye-ball. This is a weakening and diseased condition of the organ, which will eventually be a serious injury if it becomes excessive.

When progressive near-sightedness is found in school-children, in order to check the rapid deterioration in this very valuable organ, rest from eye work becomes a very important factor in the treatment. When the eye-ball is elongated, the cornea retaining its regular outlines, concave spherical glasses correct the defect in the focusing power of the lens and makes vision better; but this aid for distant vision does not make such young and still growing eyes strong or capable of standing abusive work.

There is still a very important class of misshaped eyes, also starting usually with the very beginning of life. *It is to call attention to the headaches and eye-pains caused by many such eyes that this paper is written.* In this large class of painful eyes the cause of trouble lies in irregularities of curvature of the surface of the cornea. The curvatures of the various meridians differ, as if the eye-ball had been flattened from its sides. In such eyes the misshaped cornea may be represented by the crystal of a watch, which has lost its true spherical form, from irregular pressure upon its edges when the substance of the glass was still soft. The curvatures of the short diameter, corresponding to the direction of pressure must be greater than those of the longer ones, and this must necessarily vary the focus of light passing through these different convex surfaces. In some meridians light may pass through and focus correctly upon the retina ; in other directions the focus of transmitted light will be made too rapidly or too tardily, in either case blurring the retinal image and causing defective vision. Whether the cornea border be compressed vertically, horizontally or obliquely, it so changes the surfaces of the cornea for that direction, that however perfectly the other surfaces of the cornea may focus, the faulty curvature acts as if it were a distinct lens of different focal power, and it will cast shadows over the sharply defined picture made by the correct portions of the cornea. This error of refraction is called *astigmatism*, and may be found in long, short or round eyes ; hence we find simple or mixed hyperopic or myopic astigmatism. Such irregular corneas are frequently met with. In all such eyes an effort is made automatically to correct this fault by changing the shape of the crystaline lens to correspond with the irregularities in the cornea. Fortunately the lens in young persons is so soft and jelly-like that very little action on the part of the eye muscles corrects the faulty lines of refraction, and a perfect focus is secured. For a time this succeeds well, and comfortable, clear vision is enjoyed, provided the application of the eyes for near work is not too long continued. But unfortunately the lens is hardening steadily with advancing age, and the muscular effort has to be continually increased till it becomes irksome and finally painful. The discomfort produced does not restrict itself to the eyes alone, but diffuses itself over the brow, forehead and temples, causing headache more or less persistent. In some cases the pain invades the whole head, back of neck, and even spine. These headaches can always be brought on by eye use. To some very sensitive astigmatic patients eye use refers to their whole waking life. They arise in the morning with comfortable heads, but before they are dressed the headache has been started by the necessary toilet preparations, and increases in severity with the advancing day. Sun-rise and all-day headaches they are, with some of these very susceptible persons, whose eyes see differently for the different curvatures of their cornea.

Every object in nature will radiate light from every exposed surface, and the eye catches some of these rays. Where the cornea is regularly curved light from any and all directions is accurately focused on the retina, and while we see everything perfectly, we are not aware that we have eyes, so painlessly do they function. To the abnormally sensitive astigmatic eye this varied direction of light-beams, transmitted through, and irregularly refracted by, the varied curvatures of the cornea, necessitates nearly a choreic action of the ciliary muscles. From this perpetual changing of focus, now for one part of the cornea and then for another, fatigue of the muscles and pain in the eyes must soon be induced, even to the extent of making sunlight annoying.

This irregular shape of the cornea can be detected if the eye views a drawing similar to a clock dial, traversed by groups of black, radiating lines of equal size and distinctness. By a well formed eye these groups of lines are seen with equal sharpness of outline and of the same degree of blackness. By an astigmatic eye some of these groups of lines are brought out much more boldly than others. While some remain black, others of these black lines may appear gray, and at times even red or blue; and instead of standing out boldly in the group, they run together as if they were one solid line. The faulty lines are always at right angles to those most clearly seen. With the clock dial card, if the lines running from 12 to 6 o'clock are brightest, those from 3 to 9 o'clock will be most blurred. If those from 10 to 4 are the most clearly defined the blurred lines will be in the direction of 1 to 7 o'clock, and so on for any other series of lines. If a cylinder lens be selected, which will make the dull lines as bright as the clear ones, this peculiar eye-glass, when carefully set at the proper angle, will equalize vision, and will remove the discomfort which the use of the eyes had formerly produced.

The ordinary spectacles, worn by the masses, are called spherical lenses, being sections of a sphere or ball. Such are the glasses worn by near-sighted and by old persons. The peculiar glasses which correct irregularities of corneal refraction are called cylinder lenses, because they represent a slice of glass taken from the length of a round bar or cylinder. The spherical and cylinder glasses bear the same relation to each other as would an open umbrella to a wagon-top. The cylinder lens has, as it were, a ridge pole over which the curvatures of the lens are made, while the spherical lens curves in all directions from a central point. In the use of cylinder glasses the ridge pole or plain surface is always set in the direction corresponding to the clearest lines of the clock dial, and the curved surfaces of the lens are put necessarily in the direction of the blurred or discolored lines of the dial. Such cylinder glasses alone can give rest to the weary muscles in astigmatic eyes, for without them these irregularly curved eyes cannot secure rest except during sleep.

A very useful law can be laid down for the guidance of physicians in the treatment of their eye-complaining patients, viz: that headaches which come on with the use of the eyes and which disappear during the rest which a night's sleep brings to the weary eyes, do not usually depend upon gastric, hepatic, cerebral, or uterine troubles, as is so commonly believed.

When school-girls from 12 to 18 years of age complain of eyes and head aching, after hours of close application, and are not annoyed in this way during vacations or times of eye rest, inquiry is yet made by the family physician concerning the menstrual functions. Any tardiness in the appearance of this discharge, or any deviation in its amount or frequency from what the physician has established in his own mind as the normal, is deemed too often a sufficient and satisfactory explanation for all the head and eye discomforts. According to their theory, when the monthly discharge becomes regular the head and eye troubles will disappear; but permanent relief does not come as was expected. When young men complain of these identical symptoms of eye pains and headache after hours of study I sometimes wonder why, from professional habit, their menstrual functions should not be also inquired about, for the same explanation might as truthfully be accepted for them.

In this connection I will also say that these eye-headaches, disappearing after sleep, have their origin neither in malaria nor in a bilious derangement, notwithstanding the fact that these terms are used every day in connection with them by patients and physicians. Neither quinine, calomel, morphine nor pessaries will prevent this kind of eye headache, although building up the system in feeble persons will help the eye muscles and relieve them. The careful adjustment of proper glasses, by correcting the painful muscular effort, alone will cure them. Rest is a very frequent prescription with physicians for such painful eyes. It will quiet temporarily the pain, but what permanent good can it possibly secure? When upon the use of the eyes the head aches, and when painless heads are made painful by reading, with very few exceptions, it is the abnormal curvatures of the cornea which causes the eye and head pains. How can rest bring about a correction in these faulty curvatures. Might as well expect rest from walking to make a shortened leg grow to the length of the other, as to expect a shorter curve in one direction of the cornea to grow out to the dimensions of the other longer meridians by resting the eyes from reading or sewing. We can readily see the absurdity in the leg suggestion, and yet many physicians do not see that the expectations from the eye rest are equally preposterous.

How many thousands in this country to-day are impatiently and uselessly resting eyes that pain when put to near work, when a pair of properly adjusted spectacles will correct the evil?

Nearly every day I restore some restless patient to his work who had sought in vain relief from eye pains in rest: or I assist some ambitious person, who, having acquired an enviable start in life, feels that his painful eyes have become barriers to further study and prospective promotion. Daily by the use of properly selected glasses I cure headache often of years' duration, and which have resisted every species of medication. In so doing I have often been able to satisfy anxious patients that their brains, stomachs, livers, kidneys or uteri have been accused wrongfully of producing the headaches, and that these have ever been innocent and healthy organs. The following remarks I have frequently heard from patients to whom I had recently prescribed astigmatic glasses: "For one week, ever since I put on the spectacles, I have been free from headache, and it is a freedom that I have not had before for years."

Although most astigmatic eyes cause headache and eye pains, if the eyes are much used in fine work, especially by artificial light, I find cases of faulty refraction from astigmatism in which headache is not, and has never been, an annoying symptom.

In some astigmatic persons a strong muscular development enables them to conceal the corneal irregularity. Should any disturbance of the system temporarily weaken this muscular power, the eye muscles, along with the other muscles of the body, are weakened and unable to keep up their work, then are pains induced. If it be a bilious or gastric disturbance, its temporary influence over the muscles is mistaken for the actual cause of the headache, when it is only the indirect cause, permitting the latent trouble to become manifest. If the astigmatism did not exist in a concealed form there would be no headache on use of the eyes during these general disturbances.

Again, in nervous persons, especially in females, I have found great suffering about the head and eyes, clearly traceable to a small degree of irregular refraction, and promptly corrected by the constant use of carefully adjusted cylinder lenses.

The report of a case with which I will close this paper is one of unusual severity in effects, although a high degree of astigmatism did not exist. Such extreme discomfort as this lady suffered is fortunately not often found. The case is also peculiar from the length of time that she suffered before her eyes were suspected of being the source of the trouble. In this age of diffusion of medical knowledge by means of many medical journals, physicians are on the alert to distinguish eye headaches from the headaches caused by other organic disturbances, and usually at an early day, invoke the aid of the specialist in eye diseases to remedy the evil. In her own case several years elapsed in testing newspaper remedies for headache, having lost faith in physicians from her earlier medical experiences. The case, however, will illustrate the efficacy of proper glasses in relieving even years of suffering.

Mrs. F., aged 38, the mother of several children, has been a martyr to headaches since childhood; and during the past thirteen years, since her married life, has been often nearly crazy from them. Any close eye work, continued for even a short time, would send her to bed with a raging headache. On an average she has spent one day out of every week in a dark room, and that has been kept up for months at a time. If she felt bright and applied herself to complete any piece of needlework, so necessary with a growing family, she never failed to pay the penalty in severe head and eye suffering. When she came first to my office she frankly told me that she had come because she had been advised, not that she expected any benefit, for she had no faith in any curative agent whatever, having years since exhausted them all without finding any relief. She gave me this very clear history of her case: "Dr. A—— has always been my family physician, and in him I have every confidence. Having in my early married life exhausted his skill in vain attempts at relieving me of suffering, he gave up treating me for these headaches many years ago. Under his advice I had consulted Prof. B——; you know him to be one of our leading practitioners. He acknowledged that I had a good family doctor, but thought that something might have been overlooked, and that he hoped to find me a remedy. He varied his medicines, as one after another failed to procure me relief, and finally he advised a visit to the sea-shore. I spent six weeks at Cape May, and while there rested my eyes from all work, eschewing both reading and sewing. I returned home with body invigorated by the salt baths and was free from pain. As soon as I commenced using my eyes in sewing all the old distressing symptoms returned. My family physician and friend, seeing me in some of these terrible attacks, advised me to consult another physician, Prof. C——, who you know has the reputation of being a very skilful physician. He had me under his professional care all winter and spring. Summer found me no better. Any use of the eyes in sewing or reading sent me to bed with twenty-four hours of suffering before me. He finally advised a course of mineral waters, and sent me to the White Sulphur Springs of Virginia. There I spent two months, which improved me much in health. In the fall I returned to Baltimore looking and feeling well. A very few days of house-keeping showed me that the long rest at the springs and the drinking of sulphur waters had brought me no permanent good. My head at times ached as badly as ever. I now despaired of ever getting relief, because I had sought the best medical advice at my command and all to no purpose. Some of my friends, in their anxiety to see me cured of the daily suffering, advised me to try Homœopathy. I accepted the suggestion and sent for Dr. D——. He examined carefully into my case and said that he could cure me. With these assurances from the new physician, my feeling barometer at once went up and my future prospects brightened. I entered actively into the course of medication mapped out by him. I took his mixtures hour by hour, for days and weeks, my faith growing unfortunately less and less with the monotony of the dosing. Finally, as my headaches were not mitigated, even by the long-continued treatment, I gave up all hope and dismissed the homœopathic physician.

"I felt that my case was now beyond medical cure, and I became despondent and rash. In my anxiety to secure relief, I have tried anything that any one would suggest. I believe that during the last six years I have taken every quack remedy warranted to cure headaches that I could hear of, as published in the newspapers, and my many friends have kept me well supplied with this kind of information. Recently I have heard how Miss E—— has been cured of constant headaches by wearing glasses, and my friends have suggested that I have my eyes examined. On the principle that, in my desire to escape this bodily torment, I have been willing to try every treatment that has been brought to my notice, I have come to have you examine my painful eyes; but I must tell you candidly that I expect no benefit, and have given up all hope of obtaining relief.'

Upon examination I found that she could read the finest print, but only for a few lines. Her distant vision was also acute. Fixing the eyes upon the clock dial trial card, for a short time, caused pain in the head and eyes and also induced a feeling of nausea. I found that she could clearly see the vertical lines of the test card, but only dimly those which were horizontally placed. I selected from the trial case a magnifying lens which would make these blurred lines perfectly clear, for each eye, and finding the corresponding cylinders adjusted them at the proper angle in a trial frame. These I placed before her eyes. To her surprise, not only did all the lines come out with equal boldness of color and of definition, but she found herself able to stare at them without inconvenience. After she had worn the glasses for some minutes, feeling great comfort from them, I removed the frames, when immediately the nausea previously experienced came on. The restoration of the glasses brought back strength of vision and comfort. I prescribed for her the proper cylinder lenses set at an angle of 180° in spectacle frames to be constantly worn. So anxious was she to test these spectacles that on her way home from my office she called at the opticians and remained in the store while the glasses were being fitted to the frames which she had selected. When they were ready she put them on at once and sallied forth. Before getting home she found herself walking with a degree of comfort which she had not known for months.

The rapid improvement commenced from that hour. Her headache disappeared within three weeks by the rest which her eyes enjoyed from the constant wearing of the spectacles. Now she makes her eyes do just what she pleases. Her constant headaches are by-gones, and are only remembered from the years of torture through which she had passed. Her face has become bright and free from care as her head is free from pains. Her relief by such apparently simple means, and without medicines, is called a miracle by herself, and is a marvel to her friends. No amount of rest without these cylinder glasses could have effected this cure from suffering. It had been thoroughly tested, and had been found as useless as the many prescriptions with which during many years her body had been drugged. *Cylinder glasses alone could, and they have, cured her.*

SELECTED PAPERS.

THE PLACE OF QUININE IN THE THERAPEUTICS OF TYPHOID FEVER.

By CLEMENT CLEVELAND, A.M., M.D., New York. Read at a meeting of the Practitioners' Society of New York, November 6, 1886.

At the risk of being tedious I have ventured to offer to the Society a few considerations upon this much discussed subject.

I shall be as brief as possible upon theoretical points, and confine myself almost entirely to practical conclusions.

In reading much that has been written upon the treatment of typhoid I have been struck with the unanimity with which the large bulk of writers advocate the use of quinine, some regarding it as a specific in large doses, and others declaring that it has no positive effect, either in shortening, or even in modifying the disease, yet most of them considering it an important factor in the treatment.

Liebermeister says: "My own experience, at least after treating more than fifteen hundred cases with quinine in doses that would have formerly been considered as dangerous to life, gives no results that would indicate any specific influence of the drug over typhoid fever, nor any power to cut the fever short at any stage."

Farther on he says: "Quinine has often been recommended as a specific in this disease, but has soon been found ineffective and again been dropped. * * * I myself have used it as an antipyretic since 1858, but I never dared to use as large doses as are necessary for a powerful antipyretic effect until after the communications of Vogt. Since then I have hardly treated a severe case of the fever without quinine." He is in the habit of giving from 20 to 45 grains at one dose, and then not repeating it for twenty-four or forty-eight hours.

Niemeyer says, after speaking of the hydro-therapeutic means for reducing temperature: "For moderating the fever in exanthematic, as well as in abdominal typhus, next to the abstraction of heat the administration of quinine deserves most confidence."

Da Costa has abandoned the use of quinine as a specific, though he uses the drug in most of his cases of typhoid.

Loomis does not believe in the efficacy of large doses of quinine in arresting the development of typhoid, but uses it in 30 or 40 grain doses as an antipyretic.

Flint says: "Of drugs which have an antipyretic effect quinine holds the first rank. It should be given in full doses, 20 to 40 grains, before the evening exacerbation. Trials should be made of this drug, inasmuch as, if tolerated by the stomach, it is only objectionable on the score of annoyance from cinchonism."

Reynolds says: "In the absence of cerebral or gastric disturbance quinia is a most valuable remedy for subduing the evening exacerbations."

The above quotations will serve to exemplify the position taken by the majority of writers of the present day who use quinine in typhoid, but deny its specific action. Others, like Stille, maintain that the drug is unnecessary, useless, and often dangerous. I have read quite a number of papers, most of them well-written, upon the effect of quinine in typhoid, by men in different parts of the world, many of whom speak with the most positive conviction of the results they have obtained. I have talked with many physicians upon the subject, the most of whom, I found, use quinine in typhoid—some, to be sure, as a matter of routine, but most with an intelligent reason for so doing. I found, too, that many of them believed they had aborted cases with the drug. Say what we may, the profession, as a whole, has an abiding faith in this medicine in this disease.

It is a noticeable fact that most of those who do not believe in the abortive effect have drawn their experiences largely from hospital practice, while those who advocate its use as a specific are, in the main, writers who base their belief upon the results of private practice alone. It is well known that, in most hospital cases, the patients have not entered till the disease is well advanced, rarely before the end of the first week, and often not till later, and before entering have been under no sympathetic treatment. It is different in private practice, where the physician usually sees his patient early, and, though it is hardly possible to make a positive diagnosis before the fifth or sixth day, yet he has his suspicions aroused and is able to begin active measures before the typhoid process has made much headway. It is just here that those who believe in the specific action make their strong point, that, to obtain the positive curative effect, it should be given early and in doses sufficiently large to keep the temperature below the danger point. It cannot, of course, be claimed that the statistics of cases reported as aborted are reliable, for they never can be, unless an easy practical way of detecting the typhoid bacillus can be discovered which will enable us to diagnosticate the disease early in its course. What I would urge is this, that, though not susceptible of proof, the conviction that quinine has this abortive power remains firmly fixed in the minds of many, and, moreover, that it is hardly reasonable to suppose that the large number of men who are known to hold this view could be entirely wrong and that there is no basis whatever for their claim.

But may there not be a scientific basis for this belief? The parasitic theory of typhoid is generally admitted; the typhoid bacillus has been found in the blood and the urine of typhoid patients.

Binz says: "In healthy persons and most febrile patients it (quinine) is not decomposed in passing through the blood, but is entirely excreted by the kidneys and bowels. It is only in typhoid that a deficit of twenty-four per cent. has as yet been obtained." About seventy per cent. is excreted by the kidneys alone in from three to twenty-four hours. Quinine has the power of destroying low organic and vegetable life. As it has such a destructive effect upon germ-life outside of the human body, it is probable it has the same effect when taken into the system, especially as so large a percentage of it is passed unchanged in the secretions, and must therefore retain its germicide power in passing through the blood.

As quinine is a specific in intermittent fever, and is so by virtue of its power to overcome the vegetable poison that produces it, and we know that it has this power over the organic as well as the vegetable germ, it therefore should have the same effect in some degree in typhoid. And this position is strengthened by the following quotation from Binz, who says: "Those infective poisons which are capable of self-multiplication, after a more or less regular period of incubation, are either rendered by quinine incapable of further development, as in malaria, or have their energy paralyzed, as happens to some extent in typhoid." Now it amounts to the same thing whether these germs are destroyed outright, rendered incapable of further development, or have their energy paralyzed, if this paralysis of energy can be kept up long enough for nature to eliminate them, as she makes a brave struggle to do, and succeeds in doing in those cases that recover.

My own position is this: I believe in the power of quinine to abort some cases of typhoid, to shorten the duration of others, and to ameliorate the symptoms of most. I have seen the effect too often to have any lingering doubt about it. I believe, too, that the time is coming when this will be universally acknowledged. This will be when the detection of the typhoid bacillus enables us to attack the cause of trouble early in its progress.

To be successful the drug must be used boldly. In giving large doses we are of course in danger of over-stepping the therapeutic effect and obtaining the toxic. But we are in the same danger with opium. We know perfectly the signs and symptoms of the toxic effect of that drug. We ought to know as well those of quinine. Like opium, quinine is capable of producing death, but enormous doses are necessary. As with opium, we should know by the symptoms how far to push it. Experience has taught that 180 grains, given in one dose, *may* produce death. Five ounces, 2,460 grains, taken in a period of ten days, *has* caused death. That would allow an average of 460 grains for the twenty-four hours. But there is no one who, in his wildest dreams, would think of giving 180 grains at a dose, or a daily dosage of 460 grains.

In regard to the tolerance of the drug, I believe there are very few people who cannot take it in the early days of the fever. In the first ten days, before the mucous-membrane has undergone changes due to the typhoid process and the functions of liver and kidneys have been disturbed thereby, there are comparatively few who do not bear the drug well.

It is important to begin with quinine early, and not to wait to be absolutely sure of diagnosis. My own plan is to begin with a large test-dose, of 5 to 10 grains, given every fifteen minutes for two hours, as the nature of the case presents itself to my mind. This dose is given in the latter part of the afternoon. The temperature is taken every two hours. If by morning there has been a decided lowering of the temperature, I feel encouraged to believe that it is a case manageable by quinine, and particularly so if it is accompanied by profuse swearing.

As quinine is eliminated so rapidly and in such large quantities, I believe it better to give it continuously, in order to keep the system constantly under its influence. Following out this theory, instead of giving it once a day in a large dose, I then give 5 or 10 grains every two or three hours. If by seventy-two hours no decided effect is produced upon the temperature, I discontinue the use of quinine entirely, or give it merely in tonic doses. If by seventy-two hours it has not reduced the temperature, I believe it never will.

I have not found it necessary, in the cases where I have used quinine, to give more than 80 grains in the twenty-four hours, and rarely more than 60, while 40 grains is all that has been required in some. It is important to bear in mind that giving a large amount, 60 grains for instance, distributed in 5-grain doses, throughout the course of twenty-four hours, is not the same as giving that amount at one dose. By the time the last 5 grains are given, fully three-fourths of the whole have passed out of the body in the secretions.

In all cases I use sponging, not for the antipyretic effect, but for the sake of keeping the skin clean and active.

In a case during the past year, in a young lady of eighteen, I gave 5 grains of quinine every two hours, now and then stopping it for a shorter or a longer period to note the effect upon the temperature. As long as the quinine was given every two hours the temperature would remain nearly normal, but just as soon as I *let up* on *quinine,* up would run the temperature. On the tenth day, being a little uneasy from the apparent effect upon the heart, the patient having taken an average of 60 grains a day for nine days, I stopped the quinine. In the *afternoon* the temperature went above 103°, and also on the next day. For these two days I used antipyrin to reduce the temperature. On the twelfth day I returned to quinine in the same doses, not being satisfied with the antipyrin, and because I had more faith in the quinine. The temperature went down at once, and did not run up again after the fifteenth day, when I began to lengthen the intervals between the doses an hour or more each day. The disease was then practically at an end, but I continued to use the quinine for two weeks longer in small doses. This case serves to illustrate the experience I have had with a number of others.

Again, I had been treating for ten days a case of typhoid with aromitic sulphuric acid and other remedies, *pro re rata*, where nearly every symptom of the disease was present, when, as matters were going from bad to worse, I decided to give quinine, and gave 5-grain doses every two hours with the happiest results. The whole condition changed for the better within twenty-four hours. Every symptom was ameliorated. The diarrhœa, which was constant and characteristic, began to decrease at once. The patient looked better and felt better. Within a week she was convalescent. This case is not unique in my experience. I mention these two cases because they were severe and unquestionably typhoid ; and the latter I speak of particularly, to emphasize the point that quinine will sometimes shorten the duration of typhoid, even after the tenth day.

I can recall a number of cases in families where typhoid existed and subjected to the same influences, where, but for the timely administration of quinine, I believe positive typhoid symptoms would have developed. I believe it is in this stage, the stage of so-called incubation, when the typhoid germs are said to be in an inactive state, that the drug will yet be found to accomplish its greatest work in the way of prophylaxis.

One other point I have observed is, that typhoid patients in whom quinine acts well not only recover more rapidly, but are more likely to recover permanently, or have less of the disagreeable after-effects of the disease. Statistics, if they show anything, show that the expectant plan of treatment gives a much higher death-rate than where quinine forms an important element in the treatment.

In this short paper I have attempted to express what seems to be, from all I am able to learn, the feeling of many in the profession regarding the use of quinine in typhoid fever, and to give some of the apparent reasons why, it appears to me, it holds, and must continue to hold, an important place in the therapeutics of that disease.

DISCUSSION.

The paper being open for discussion, Dr. A. Brayton Ball said that he did not see how the argument regarding the destructive effect of quinine on the germs of fever could be made to apply to typhoid fever. If it is based on the ground that it destroys germs of all kinds, then it ought to destroy those of small-pox, measles and other infectious diseases caused by a bacillus. But theories regarding the point were, after all, of no value. His experience with quinine was unsatisfactory. He had given it up long ago in the treatment of typhoid fever. As an antipyretic we have better drugs, and he only used quinine as a bitter tonic in period of convalescence.

As regards aborting typhoid fever, he did not see how that could be proved. In every epidemic of typhoid there is a large number of cases that abort themselves, so to speak. It is a matter of every-day hospital experience to find cases brought in with more or less of the symptoms of typhoid fever and run a course anywhere from five to ten or fifteen days. The pathology of these cases is obscure; they are not typical cases of typhoid, and perhaps had better be called simple continued fever. But the fact that they occur in epidemics of typhoid fever, and in families where there is typhoid, makes it pretty clear that they are only mild cases of that disease that abort themselves. It is a very difficult thing to make a diagnosis of typhoid fever until the patient has been sick for a number of days.

Dr. E. D. Hudson said that until four years ago he was a firm believer in the use of quinine in typhoid fever. He made the effort with it to secure an antipyretic effect, and he also employed it to influence the general course of the disease.

Lately his experience had led him to believe that quinine is not an essential part of the treatment. He, however, still employed it early in the disease for its antipyretic effect, and also after the third week for the purpose of securing a more rapid convalescence. But during the second and third weeks, when the nature of the fever is established, the drug is not of any material value, and in some instances it is positively injurious. In the early stage of the disease, before a positive diagnosis is possible, quinine should be given, because there may be a malarial element present.

Dr. Hudson approved of giving quinine in large doses at the outset of the disease, and associating it with a cholagogue cathartic. He had never seen cases treated heroically with quinine, that appeared to be shortened in their course, though he thought that quinine might shorten the convalescence. With reference to

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he had seen patients who had been treated thoroughly with quinine, but in whom a relapse occurred. This was another argument against quinine having any specific effect. He had been astonished to see in patients in the hospitals, with all their unfavorable surroundings, pretty uniformly good results as compared with patients in private practice, who had everything possible done for their comfort and cure.

On the whole, he thought that except for the occasional use of antipyretics, it was well not to use drugs too much in typhoid fever. He had seen some very remarkable illustrations of the advantage of keeping to a strictly milk diet.

Dr. Beverley Robinson agreed substantially with what Dr. Ball and Dr. Hudson had said, viz: that quinine did not have any special influence over the course of the disease. A case was cited of typhoid fever, then under the speaker's care, in which he was sure that death was to occur, and not from any special complication or high fever, but because the fever seemed to have attacked the heart and enfeebled it. No drugs seemed to have any effect in such cases as this. The patient had never had any marked rise of temperature, so that it was not the febrile heart that produced the cardiac weakness.

The speaker was opposed personally to the use of any drug unless the temperature was very high. If the temperature was 104°, it was simply part of the disease, and unless the patient were adynamic he would not treat the symptom. If he had typhoid fever himself he would not allow anyone to give him a drachm of quinine daily any more than he would allow it when he was well. When quinine caused a lowering of temperature, it did it only by depressing the circulation. He thought that the expectant plan was the only rational method of treating typhoid fever. He did not think that statistics regarding its treatment were of any value whatever. At some places and times the fever ran a very adynamic course, in other places not at all so.

Dr. Robinson believed that the

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in typhoid fever occurred without any reference to the high temperature. He had some doubts about the value of digitalis, when the heart was affected, in these cases. You might use diffusible stimulants, but in giving digitalis one might whet up a good fibre, but make the poorer fibres still more weak. In conclusion, the speaker reiterated his belief that the only rational way to treat typhoid fever was by the expectant plan—no specific treatment, no antipyretic treatment.

Dr. F. P. Kinnicutt also believed in the expectant plan of treating typhoid fever, and he thought that this plan gave the best results.

In reference to the statement that the mortality from typhoid was less under the quinine treatment, it seemed to him that it would require a very large number of statistics to prove this. He had not seen the statistics in reference to this point.

Dr. Kinnicutt had been accustomed to use quinine in large doses a number of years ago, but he had never felt quite safe in using it, and he had given it up of late. Experiments had shown that it undoubtedly had a depressant effect on the heart in large doses. He usually gave quinine in the early stages of the fever, but even when he had given it in large doses he had never seen any abortant effect.

Dr. Henry F. Walker was accustomed also to give quinine in considerable doses until the diagnosis was made. When he was sure that it was typhoid fever, with no malarial complication, he ceased to use it. He thought that there was sometimes a malarial element all through the course of the typhoid. He cited also an interesting case of a patient who had typhoid, which ran its usual course, not showing any malarial complication until the period of convalescence set in, when the patient developed intermittent fever of a distinct type.

Dr. C. L. Dana said that he had also abandoned the routine use of quinine in typhoid fever, and followed the expectant plan. It was a matter of some interest to note the change of practice in the hospitals regarding this point. At Bellevue ten years ago quinine was in most wards regularly given in all cases of typhoid. Now its use was abandoned as a rule; antipyretics of various kinds were given occasionally, but the treatment was mainly symptomatic and expectant. If there had been any manifest advantage in the quinine treatment it would doubtless not have been so completely dropped. The speaker thought that even in cases where there is a manifest malarial element, quinine did not produce much effect on the course of the disease.

Dr. George L. Peabody did not think that quinine was a desirable thing to use in typhoid fever. He did not think that it had any tonic influence in small doses, any more than would be obtained by any simple bitter. Its effect in large doses he did not think was good. He had never seen it do any harm to the heart, although he thought that it might do so, and even to a strong heart, if the doses were heroic. He had never seen it abort the fever, although several years ago he had given it for that purpose. It was very difficult to prove that cases of typhoid fever had been aborted, but he thought that he had succeeded in some cases last summer by the use of naphthaline. Five grains of this every two hours disinfects the intestinal canal. In two cases in which it was given the characteristic symptoms of the disease were well marked, including the eruption and enlarged spleen. In these the fever seemed to decline rapidly under the naphthaline; in two other cases it had no obvious effect. Most of his cases came under observation too late for the application of the treatment. Dr. Peabody was rather of the opinion that the drift of modern writers was against the use of quinine.

Dr. J. B. Hunter said that he was under the impression that the use of quinine in typhoid was very generally abandoned. He had had a very considerable experience with it during the war. On one occasion it had been found advisable not to give quinine to the typhoid patients on account of the difficulty of getting it. The patients seemed to do just as well without it.

Dr. A. A. Smith said that some three or four years ago he placed himself on record as believing, not only that quinine was not of much service in typhoid fever, but that it did harm, particularly in its effect as a cardiac depressant. He did not think that quinine in antipyretic doses was a safe thing to give after the second week. He followed the same plan as the others, of giving it in the first week.

Dr. Hudson referred to a case then under treatment in which antipyrin had been used with unfavorable effect. Quinine being substituted, the patient did much better.

Dr. Cleveland said that he was himself conservative in the matter of giving quinine. He thought that it produced its best effects in the early stage of the disease, and he hesitated to give it in large doses throughout the whole course. He was sure, however, that he had seen favorable effects follow its administration, and he believed that in some cases he had seen it abort the disease. Others had reported a similar experience. He believed that it acted more as a germicide than as an antipyretic, although he did not claim that it destroyed the parasite, but that it probably had an influence in inhibiting its activity. It might have this effect on the parasite of typhoid without affecting that of measles or small-pox; and it was with this view that he would present in answer to the criticism that if it acted as a germicide to one disease, it ought to do the same to that of all other infectious fevers.—*Medical Record.*

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Sounding Pregnant Uterus.—Before the St. Louis Medical Society, Dr. Hulbert related an instance to illustrate the immense amount of abuse a pregnant uterus may stand. A woman was admitted to the Female Hospital with uterine trouble, who, amongst other things, had been subjected to the introduction of the uterine sound. She was insane, her delusion being that she was extremely filthy. Her husband declared that she could not be pregnant. An examination disclosed a large bilateral laceration of the cervix. After waiting one month, the doctor was satisfied that she was not pregnant, and with a hope that a cure of the lacerated cervix might cure her insanity, he operated, denuding freely, and passing a sound several times into the uterus. He introduced ten sutures. In ten days he removed the sutures, finding a very satisfactory union. In eight days more, the eighteenth after the operation, the patient aborted, and was safely delivered of a fœtus of three months.—*Medical and Surgical Reporter.*

THE TREATMENT OF RHEUMATISM IN THE PHILADELPHIA HOSPITALS.

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HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Dr. Osler employs in mild cases, with only one or two joints involved and the temperature not above 102° F., the citrate of potash in ʒ ss doses every four hours. If there is much pain and the patient is restless, Dover's powder grs. x at night. In more severe attacks, with polyarthritis, and fever above 103°, he orders salicylate of sodium grs. xv every two hours, with a similar quantity of the citrate of potash. The important influence of the salicylate is believed to be in the reduction of the pain and fever. It is not thought to have much influence in lessening the duration of the disease; and, on the other hand, when pushed for many days and in large doses, it is thought directly to favor the occurrence of relapse. Hence, as soon as the pain is relieved, the amount of the salt is reduced, and it is stopped as soon as possible. It does not probably influence, one way or the other, the occurrence of endocarditis. When the temperature is above 103.5° antipyrin, grs. 20, is ordered. With fever of 105° the cold pack is employed. Lemonade and carbonated waters are allowed freely. An unstimulating liquid diet is given. Blankets are preferred for the bedding of the patient. Special care is enjoined in changing the clothing, and a wad of cotton-wool is placed over the front of the chest. The joints are wrapped in cotton-wool, or, when very painful, in spongiopiline, or flannel, soaked in Fuller's lotion (hot) (Liquor Opii Sedativus, ℥ j; Potass. Bicarb., ʒ iv; Glycerin., ℥ ij; Aquæ, ℥ ix). If the salicylate and the local application fail, as they sometimes do, to relieve pain, opium is freely given. During convalescence iron and tonic doses of quinine are ordered.

JEFFERSON COLLEGE HOSPITAL.

Dr. DaCosta treats his cases of acute rheumatic fever, as a rule, with salicylic acid, about a drachm in twenty-four hours; he does this especially in the cases of active, frank character, in which the joint affection is decided. Where marked cardiac complications exist, he greatly prefers the alkaline plan of treatment; indeed, has little faith in the use of salicylic acid either to prevent cardiac complications or to remove them. Nor does he, in any case, continue salicylic acid or the salicylates if no impression is made on the rheumatic malady in three or four days. When the remedy does good at all, his experience is that it does good quickly.

In cases of acute or subacute muscular rheumatism, or in subacute articular rheumatism with much pain and only moderate swelling of the joints, he often employs bromide of ammonium, or, if this fail, nitrate of potassium. He uses opium sparingly, and generally confines it to a moderate dose or two of Dover's powder, given at night.

He strongly insists, no matter what plan of treatment be adopted, on the addition of quinine, from 12 to 16 grains daily, as soon as the more active symptoms have subsided, believing that thereby the patient's strength is sustained and relapses prevented.

From tincture of chloride of iron he has seen no good, except in pyæmic rheumatism or in kindred forms of rheumatism.

Locally, he uses little, enveloping the swollen joints, if very painful, in a thin layer of cotton-wool; where the joints are very much swollen he envelops them in cloths wrung out in a strong solution of nitrate of potassium, with morphia added.

The diet is always bland and unstimulating, chiefly milk, farinaceous substances, and very moderate amounts of broths, eggs and fish. Alcohol is not given except in the so-called "typhoid cases," in which also high temperature is generally found.

Dr. Roberts Bartholomew finds that the cases which come under his observation may be divided into three types: The robust nervo-muscular subject, often having a distinctly hereditary tendency to the occurrence of rheumatic inflammation; the obese, beer-drinking subject; and the pale, anæmic, feeble subject, most frequently female, living under unfavorable hygienic conditions, and leading a close sedentary life.

His choice of remedies for these three classes of rheumatic subjects, when the seizure has actually occurred, is confined to the salicyl compounds for the nervo-muscular type, to alkalies and tincture of iron in the obese type, and to tincture of iron in the anæmic. The recent additions to our knowledge of the good effects of antipyrin in acute rheumatism incline him to its use in place of salicin and salicylic acid, and for the hyperpyrexia in any of the cases. Although he cannot agree with those enthusiasts who regard antipyrin as a specific in rheumatism, he cannot overlook the good effects obtained from it in appropriate cases—especially in the neuro-muscular group. As the disease manifests a tendency to relapse the earlier and the more abruptly defervescence and cessation of pain take place, he keeps up the use of the remedies for several days after all morbid manifestations have ceased. With these remedies he combines, *pro re nata*, quinine, morphine, and, more particularly, blisters in the neighborhood of the affected joints.

In the obese, beer-drinking type of rheumatics, the use of alkalies, or the combined alkaline and quinine treatment as advocated by Fuller, appears to him to be most efficacious during the existence of the acuter manifestations. When these have distinctly subsided, the tincture of iron freely administered becomes the most important remedy, and will do more than any other to prevent recurrences, which are particularly apt to take place in this type. Furthermore, the acute rheumatism of these obese subjects manifests a certain sluggishness of disposition, so to speak, and slowly glides into the subacute and chronic forms. Until he learned the value of tincture of iron in these cases, he had to observe this tendency of the malady only too often.

For the third group of rheumatic cases he uses the tincture of iron with excellent results. The anæmia, the depression of the bodily forces, and the exquisite sensibility characteristic of this type, are conditions generally improved by iron ; but as no other preparation manifests the same power in acute rheumatism, there must be a special action due to the hydrochloric acid in the combination. This view is the more probable, since the mineral acids have themselves been used successfully in the treatment of this disease.

The blister treatment, which has alone accomplished excellent results, may well be combined with any other special plan.

Whatever mode of treatment has been pursued, he finds it necessary to keep it up, somewhat modified as to quantity, for several days after the apparent cessation of the systemic and local disturbance.

PENNSYLVANIA HOSPITAL.

Dr. Morris Longstreth, in cases of decided articular manifestations and high temperature, orders salicylic acid to be given in 10-grain doses every hour until six doses are given, i. e., a drachm every twenty-four hours. The salicylic acid is given with the object of reducing the temperature, and the quantity and frequency of the dose are proportioned carefully to the end to be attained. In the large majority of cases it is successful. The temperature and with it the the frequency of the heart's action, diminishes. Cardiac complications, endo- and peri-carditis do not seem to contraindicate its employment or its continued use. Occasional cases present themselves in which great depression of the heart follows the employment of the drug in large doses, even without evident inflammatory cardiac complications. In such cases other medication must be employed; and occasionally restoratives have been required to overcome its effects. Usually its use is continued for one or more days after the subsidence of the temperature, in much reduced doses and at longer intervals.

In cases in which salicylic acid fails of its usual effect, or in cases with great anæmia or previous debility, salicin has been found very useful. It has been given in 15-grain doses four times a day. Its administration in smaller doses is often continued during convalescence, either alone or in connection with iron or other tonics.

The alkaline treatment Dr. Longstreth resorts to less frequently. When employed, bicarbonate and citrate of potash, in equal proportions, are given in divided doses to the amount of one ounce daily.

Quinine and tr. ferri chloridi seem to be demanded during convalescence in nearly all the cases. The disordered digestive functions, evidenced by coated tongue and sluggish bowels, seem to be most favorably and promptly aided by the administration of some small doses of calomel, gr. 1-12, with bicarbonate of soda, gr. iij, given at frequent intervals during one or two days.

Locally, to the affected joints, three modes of treatment have been found of service. Joints hot and tense are covered with cloths wet with lead-water and laudanum, equal parts, and enveloped with waxed paper or gutta-percha sheeting. In some cases the local application of a saturated solution of bicarbonate of soda is useful; sometimes the impermeable sheeting is omitted from the dressing—coolness from evaporation being more comforting than the heat. In other cases the joints are enveloped in cotton, with or without the covering.

Cold-water sponging or packing is employed in cases of high temperature with delirium. Antipyrin has been employed in some of these cases, but without good results. Morphia or opium is always used as required.

PHILADELPHIA HOSPITAL.

Dr. James Tyson uses both salicylic acid and salicylate of sodium, but recently has confined himself rather more to the former. He gives it preferably in the form of a compressed 5-grain pill, of which two are ordered every two hours until the symptoms yield. This is generally within twelve hours, and almost always within twenty-four. After the pain has decidedly subsided he diminishes the dose one-half or increases the interval to four hours. If the administration is cautiously continued for a week or ten days, he finds that it is comparatively seldom that relapses occur. Sequelæ and complications are less frequent by this than by the older methods of treatment. It is comparatively seldom that anodynes are required as adjuncts to relieve the pain, but when they are, the hypodermatic use of morphia is promptly efficient.

In giving the salicylate of sodium, he prescribes 10 to 15 grains every two hours, or half as much every hour until relief is obtained. Its sickening taste in solution is a great drawback to its use, but it, too may be given in 5-grain compressed pills, although the larger bulk makes this method of administration inconvenient.

When salicylic acid or its salts fail, he finds that flying blisters to the painful joints are the next most efficient measure, and their effect upon the pain is usually very prompt.

Dyscrasic cases are, of course, treated with iron, quinine and an abundance of nourishing food, and flannel garments worn next to the skin.

In muscular rheumatism salicylic acid is seldom efficient, although Dr. Tyson often uses it with results which lead him to believe that it is not totally without effect. By far the most satisfactory measure is dry heat, applied most conveniently by the hot-water bag.

In the treatment of chronic rheumatism Dr. Tyson has much more confidence in the use of local measures and manipulation. Salicylic acid is also sometimes useful, but the effect is more frequently temporary.

Dyscrasic conditions are treated with cod liver oil and iron, which alone are sometimes curative. Counter-irritation by blisters and strong liniments are sometimes useful adjuncts, but are in no degree equal to manipulation.

Dr. J. C. Wilson has, during the past three years, used in acute rheumatism a mixed treatment, consisting of sodium salicylate in combination with sodium bicarbonate or sodium acetate. The formula commonly employed is as follows:

℞.—Sodii salicylatis	gr. xv.
Sodii bicarbonatis	gr. xxx.
Aqua menth. pip	℥ ss.—M.

To be taken every third or fourth hour.

This dose is increased or diminished in accordance with the intensity of the pyrexia, the acuteness of the joint pains and the condition of the heart, in individual cases. After the reaction of the urine becomes distinctly alkaline under this treatment, the sodium bicarbonate is stopped and the salicylate continued alone at gradually increasing intervals until the pains and fever have wholly ceased. The administration of iron then follows, usually in the form of Basham's mixture, the mistura ferri et ammonii acetatis, U. S. P.

Dr. Wilson regards this method as quite equal to the treatment by salicylic acid, the sodium salicylate alone or by salicin, as regards the rapidity with which the pain is relieved and the fever controlled, and as much superior to them in the diminished danger of producing the toxic effects of large doses of the salicylates, especially cardiac depression, epistaxis, tinnitus, headache and maniacal excitement—phenomena which are very seldom observed, if we except slight ringing in the ears, under this plan of treatment.

The diet consists chiefly of milk; light broths are, however, occasionally permitted, to which, with beginning convalescence, are added bread, rice, custards, etc. Alcohol in any form or dose is scarcely ever given, except in emergencies, and forms no part of the treatment even during the convalescence.

Serious heart complications developed under observation in the wards are comparatively infrequent, and relapses not very common.

In view of the frequency of recognizable cardiac lesions, especially in young subjects, and of the probability that some degree of implication of the valvular endocardium, not sufficient to manifest itself by satisfactory auscultatory signs, may be present in many cases, in which murmurs are not present, the patients, when practicable, are kept in bed for ten days or two weeks after the complete subsidence of the acute symptoms. The valves of the heart are thus saved wear and tear, the danger of relapse is greatly lessened, and the rebuilding of the blood hastened.

If, despite the steady use of iron in full doses, the anæmia persists, arsenic is given in small but gradually increasing doses, usually with good effect.—*Medical News.*

REPORT OF CASES ILLUSTRATING THE GREAT CONTAGIOUSNESS OF SCARLET FEVER.

By Boardman Reed, M.D., of Atlantic City, N. J., formerly Physician to the Mercer Memorial House for Invalid Women.

The science of medicine is not yet completed, and it is the bounden duty of every physician to report cases which may assist in the determination of mooted questions. The paper read by Dr. Arthur V. Meigs, on "The Contagiousness of Scarlet Fever," at a recent meeting of the Philadelphia County Medical Society, raised a question of the utmost practical importance. It was an able and elaborate presentation of views which have long been held by some experienced physicians—views which from time to time have been set forth with more or less cogency in medical literature.

Dr. Meigs contends that scarlet fever is by no means so contagious "as is commonly reported, and very much less so than measles and whooping-cough, and some of the other common contagious maladies." The ten cases cited by him certainly show that the contagium of scarlet fever is less volatile than that of measles and whooping-cough, and less likely to pervade an entire house. In one of his cases, moreover, there was an exposure of two children to the disease for some hours after the rash appeared, without its being taken. I have seen similar cases where one child in a family having been taken with scarlet fever, the other children, who had been with the sick one till shortly after the rash appeared, were isolated and kept in another part of the house till a month or more after convalescence was established, and then allowed to associate again with the convalescent without contracting the disease. In these cases, however, the greatest pains were taken to destroy or thoroughly disinfect every article of every description which had been in the sick-room. The convalescent children were bathed, their heads shampooed, and they themselves taken daily out into the air for a week before being permitted to mingle again with the other children. Without these extraordinary precautions my experience teaches that even a month's separation is no guarantee against the contagion.

Most of the authorities on the diseases of children refer particularly to the lack of volatility of the scarlet fever poison. It is an established fact that it is usually necessary to be quite near a case of the disease in order to contract it. It is getting to be pretty well settled, also, that scarlet fever is less contagious previous to the coming out of the rash than afterward. Probably the same is true of most of the eruptive fevers.

Granting all this, and granting, also, that adults rarely take scarlet fever, while the older children of a family sometimes—though certainly very exceptionally—escape after complete exposure during the height or decline of an attack, I must still insist on considering this one of the most contagious, as well as the most treacherous and dangerous of the exanthemata. What its contagious principle lacks in volatility it makes up in persistency and indestructibility. It has been known to remain for years in articles of clothing without losing its virulence. Even the comparative insusceptibility of the middle period of life is not a sure protection against it, provided the exposure is frequent or long-continued.

The following case strikingly illustrates the certain contagiousness of scarlet fever when neither isolation nor other preventive measures are practised :

Case 1.—In the summer of 1879 a few cases of scarlatina occurred in one of the public schools of Atlantic City. In a poor family, consisting of father, mother and six children, the oldest, a girl of ten years, contracted the disease. She was put to bed in the upper room of a two-roomed dwelling in which the entire family slept. One after another, at intervals of two to five days, all the children were attacked. Finally the mother, who had nursed them night and day, contracted the fever. The father, who had previously been out at work during the day, though sleeping in the one bedroom with the sick ones at night, escaped till the last ; but having then to take the mother's place as nurse, and hold one or other of the sick children on his lap, he could not longer resist the concentrated contagion at such close quarters, and himself came down with the disease. None of the cases were malignant, and all recovered.

The following is one of several cases closely resembling each other which have occurred in my practice :

Case 2.—One of a family of two children had scarlet fever in Philadelphia. The other child was kept away until an entire month after convalescence was established. Then both children were brought to a boarding-house in Atlantic City, and allowed to occupy the same room. Within a few days the other child was attacked, when, as is the custom here, the entire party was obliged to remove at once to a private cottage. The greatest care was used in disinfection, and the disease did not spread any further.

Owing to the regulation enforced by all hotel proprietors at this resort, that guests who develop any contagious disease must be immediately removed, I have never, except in the following instances, known any such diseases to be contracted from other cases in a hotel here. Whooping-cough cases are sometimes permitted to remain in the smaller boarding-houses, but never in the hotels or more important hostelries. It is significant as to the contagiousness of scarlet fever that these only exceptions (described below) were of that disease.

Case 3.—A child brought from a neighboring city to a hotel here developed a severe and typical attack of scarlet fever on the night of its arrival. I saw it the next morning, and advised that it be immediately quarantined in a cottage. Instead, the family took it home, where it died the next day. The room occupied by it was disinfected, but perhaps not with sufficient thoroughness. Some two weeks later a child arrived from another city, and by accident was assigned to the same room. Within twenty-four hours it was seized with high fever, rapid pulse, vomiting and acute inflammation of the fauces. No rash had yet appeared when my visit was made; but, anticipating scarlet fever, I again advised removal to a cottage. The parents, against my protest, returned home with the child. A diagnosis of diphtheria was there made, and death resulted in two or three days. There had been no diphtheria in the house, and, considering the circumstances, it seems to me at least probable that this was a case of scarlatina without rash. The room was now thoroughly disinfected, and no other children were permitted to occupy it for several months. About the same time a family with two children were occupying a room on the same floor, and nearly opposite the one just referred to. Within a week after the last case mentioned one of these children was attacked with scarlet fever, and the family then promptly removed to a cottage. The child did well, recovering in due time. The other child occupied a different room after the transfer, but by the end of a week was taken with slight fever and sore throat, evidently scarlatinous, but had no rash. There had been no other cases in the hotel, and, though this was several years ago, there have not been, to my knowledge, any cases in it since, either of diphtheria or of scarlet fever.

In view of the above facts, I submit that physicians cannot be too careful in guarding against the spread of scarlet fever. On account of its frequently malignant and deadly character, as well as the serious complications and sequelæ which so often afflict children that do not die of it outright, it is certainly to be dreaded more than any other disease of childhood. Therefore, admitting that it is somewhat less contagious upon slight exposure, or at a distance, than some other diseases, let us nevertheless inculcate greater rather than less stringency in quarantining against it.—*Medical News.*

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Water and Fever Patients.—Dr. Glax, as the result of observations made by him, concludes that the imbibition of water, especially cold water, by fever patients, causes the temperature to rise. The water taken abundantly is not excreted in proportionate amount, but accumulates. With defervescence the water passes off rapidly. Herr Glax will not convince physicians that the old, dry method of treating fevers should be adopted again.—*Med. Record.*

ANTIPERIODIC EFFECTS OF QUININE.

Scientific therapeutics is something like a family flour-barrel: everybody goes to it and everybody gives it a kick. Very frequently, however, the cause of the grumbling lies not with the investigator of physiological therapeutics so much as with the pathologist. In many cases practical therapeutics outrun pathology, and the results which we obtain at the bedside by the use of remedies cannot be explained, because the pathologist is unable to explain the rationale of the disease.

The antiperiodic property of quinine has long been an absolute mystery, which has baffled every attempt of the scientific therapeutist to solve. It looks now as though the problem would be an uneasy one when the pathologist has done his work. The recent studies made at the Philadelphia Hospital by Professor Osler strongly strengthen the probability that the cause of intermittent fever is an infusorium in the blood, as first noticed by Thomasi Crudelli. Professor Osler has examined some forty odd cases, and, with scarcely an exception, has found the creature in one of its three forms, either as a flagellate living body, moving about the red blood-corpuscles and scattering them hither and thither, or a quite crescentic-shaped body, or an amœboid form living in the red blood-corpuscles, and apparently destroying them.

In one or two cases in which the diagnosis founded upon the symptoms was very doubtful, Dr. Osler was able to decide the nature of the case by finding these creatures in the blood of the patient. In all of such cases quinine produced rapid amelioration. Quinine acts as a powerful toxic agent upon many of the lower forms of life, and the theory must at once suggest itself to every mind that it cures intermittent by destroying the germs to which the fever is due. We do not know of any direct experiments upon these infusoria with quinine, but certainly such studies are urgently demanded. Professor Osler has found that the cure of the intermittent by quinine is followed by the disappearance from the blood of the infusoria; such disappearance not, however, being rapid, but gradual. No one has yet succeeded in growing the infusoria outside of the human body.

Although the suggestions which have been put forth in this note still belong in the category of speculation, there is enough foundation of ascertained fact to stimulate very greatly the study of the matter by those who are situated in highly malarial districts.—*Therapeutic Gazette.*

BROMIDE OF ETHYL.

In a recent number of *Science* there is recorded in detail a death which recently occurred in Brooklyn or New York from the use of bromide of ethyl by a dentist. The rapidity of action and the general comfortableness of the bromide as an anæsthetic, leads every now and then to its being recommended by some one, and to its still being used to some extent.

When it was first actively proposed as an anæsthetic it was carefully investigated by Dr. H. C. Wood, who, as the result of his experimentations on the lower animals, arrived at the conclusion that it acts like chloroform on the heart, and that it would be a more dangerous anæsthetic than chloroform. Within a very few days after the publication of Dr. Wood's paper a case was reported in which death from cardiac failure was averted with the greatest difficulty, and only a few weeks later a fatal anæsthesia was put on record. Since that time there have been several deaths from the use of bromide of ethyl. Those, too, in spite of the general abandonment of it.

There is probably no anæsthetic which has ever been used to any extent that has as high a mortality rate as has the bromide of ethyl. The advantages which it possesses over chloroform are so slight as to be of no importance. We do not think the habitual use of chloroform as an anæsthetic is justifiable, but certainly it is much better to employ it than to venture the dangers of the bromide.—*Therapeutic Gazette.*

It was indeed an ingenious physician who traced the cause of a case of lead poisoning to the patient's habit of holding a *lead*-pencil in the mouth. But then the patient did not know that lead-pencils do not contain lead.—*American Druggist.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., }
GEO. GILLETT THOMAS, M. D., " } Editors.

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THE DOCTOR'S PLACE IN THE COMMUNITY.

The address of Dr. S. Weir Mitchell, at the Centennial Anniversary of the College of Physicians of Philadelphia, is so full of fine thoughts and suggestive ideas that we have reprinted much of it elsewhere. The lesson which grows out of the history of the profession of medicine in the city of Philadelphia, where it has always exercised an influence unknown to an equal degree elsewhere, is the need for more self-assertion and more intimate connection on the part of the physician with the interests of all sorts that are involving the welfare of the communities in which they live. The frequent changes that occur in the opinions of the doctor, as he seeks to keep apace with the tide of thought that is always rapidly rising, makes him too much the servant of his profession to the exclusion, largely, of all other thoughts and schemes that should demand at least some of his time and influence. He cannot divorce himself from the manifold concerns of the community in which he lives, without divesting himself of much of the influence which his position as a physician would, with care, ensure for him. Nor can he maintain his place as a physician unless he is conversant, in a measure, with the social and commercial world, as well as alive to the workings of disease in the sick bodies of those people whose every-day life he must study and know. There must be a manifest interest on the part of the doctor in the welfare of the public, if he will claim to be a guide for their actions in days of bodily distress. There is no need that he shall sacrifice his time to be thus a participant in the general affairs of the laity—no need that he should enter the marts of trade or the turmoils of politics, but he must not be an uninterested outsider, one unwilling to do his full share to push forward all schemes that will advance the cause of education and promote social purity, as well as serve as a safe counselor in all matters directly relating to the health of his people. The position these men, whose memory Dr. Mitchell has so beautifully recalled, sustained to the general public is the sure testimony that they lived and worked not alone for themselves and within the exact confines of their profession; but were imbued with an enthusiasm to fill the full measure of true manliness and to serve the ends of a great and humane profession, that was rewarded by the trust of their fellow-citizens and to the satisfaction of noble ambitions.

The accomplishment of such a commanding position in a community is secured by constant and untiring study—study not hampered by the metes and bounds of medical literature, but enlarged into such general subjects as pertain to general knowledge. The great free State of Literature has no time set for naturalizing those who desire to become citizens of her gentle domain. For to all there is the bidding to enter in and possess the good land and enjoy its blessings—the only compensation asked is that return shall be made, in kind, or in practice, of the good deeds which are therein laid up as great moral and intellectual examples in the lives and thoughts of great men and women that have helped to people this realm.

CORRESPONDENCE.

NOTES OF A VISIT TO SOME OF THE NEW YORK HOSPITALS.

NC Med J. (O.S.) 19: 50-56, #1, Jan. 1887

Messrs. Editors North Carolina Medical Journal:

Perhaps nowhere in the great European centres of learning can the advanced student of medicine find fitter opportunities for the acquisition of general or special knowledge, than in the great metropolitan city of New York.

I do not offer here anything beyond a mere *coup d'œil* of what came under my observation in a rather hurried and curtailed visit.

The hospitals are numerous; those of a general character are about eighteen in number, including the new Maternity, built by the Vanderbilt family, in connection with the College of Physicians and Surgeons; besides these, there are many private institutions for the care of the afflicted. Doubtless there has been no period in the world's history when so much has been done for suffering humanity, in all of its phases, as the present.

The practitioners with whom I came in contact seemed to be a live, go-a-head set of men, fully abreast with the progress of scientific medicine, hard workers, receiving apparently a healthy impulse from their invigorating and bracing climate. Among them it is pleasant to note the thrift and success of quite a number of Southern men who have settled in the city since the war, some of whom are attaining, and have arrived at, deserved prominence in special departments and in general practice.

When one considers the abundant material and numerous advantages afforded professional men in these great cities, with their museums, hospitals, clinics, libraries, etc., it is not remarkable that the masters in the art and science of medicine should be found here. It is all the greater honor, therefore, when men in our profession, in less favored communities, rise to high position and distinction in their calling.

Through the kindness and influence of Dr. A. H. Goelet, one of the rising young physicians of the city, and a former North Carolinian, I had daily invitations to interesting work going on at the different hospitals. In this way I came to visit the wards in the German Hospital in the service of Prof. Lange. I found the doctor a very agreeable and courteous gentleman. On this occasion, the day being dark and gloomy, he said there would be no operation performed, but politely invited me to accompany him through his surgical wards of sixty beds, at the same time remarking that this would perhaps be of more interest to me than any operation he might perform. Here I witnessed a great variety of surgical cases and methods of treatment, the history and management of which he seemed to take great pleasure in explaining and requesting me to examine. Having asked me to come back the next day, I did so, and saw him remove a large portion of the femur, in a boy of fourteen, for necrosis extending from above the middle of the shaft down to the condyles. When the chiseling was completed the bone appeared almost a mere shell; the wound was then made thoroughly aseptic by the sublimate irrigation, 1 to 2500, and the integument, instead of being sutured and strapped in the usual manner, was folded closely and firmly in the excavated bone, drainage-tubes inserted, absorbent pads placed longitudinally along the line of incision, and the limb firmly secured by bandage. This dressing he will not disturb for several weeks, if the case progresses favorably. This method, he informed me, he had learned from one of his fellow-assistants in Esmarch's service, and was not aware that it was practised by any of his colleagues. The advantage to be gained is that the wound heals in much less time, the result is better, and patient discharged from hospital sooner than by the old plan.

Dr. Lange has recently successfully performed a nephrotomy for pyonephrosis in a female, and nephrectomy in a male. During our conversation he inquired if we had many cases of stone, and I was somewhat surprised when he said he preferred the suprapubic method in lithotomy, giving as his reason that the various steps of the operation could be better seen, and now that we had such thorough antisepsis, the wound was not so extensive and serious as the perineal, and, moreover, in elderly persons, where there was prostatic enlargement, the finger could not, on account of depth of the parts, be made to sweep the bladder so well.

Dr. Lange has been in this country only nine years, but speaks English with remarkable elegance and fluency. He is very deliberate and thorough in his surgical work, and plain and unostentatious in manner. I felt impressed with the idea that he was one of the coming great surgeons of the country. To him, also, is due the credit for the introduction of antisepsis in the New York hospitals.

Dr. Gerster is also a German, and one of the visiting surgeons to this hospital, as he is to Mt. Sinai, the Jewish hospital ; at the same time he is one of the professors at the Polyclinic. He, too, is a fine English scholar, and one of the most forceful and common-sense clinical lecturers I have ever heard.

The Post Graduate schools are among the new features of the day for advanced medical instruction. They are attended mostly by physicians from different sections of the country, who generally have been some years in practice, and who repair to them for special knowledge in some particular branch, or for a general brightening up, taking courses for a greater or shorter length of time, as their duties at home will permit. These schools, or rather clinics, are presided over by a very meritorious and progressive class of comparatively young men, many of whom are professors and visiting physicians and surgeons to the various hospitals of the city ; the others are simply doctors and lecturers, with perhaps some dispensary service.

The Polyclinic seemed to be better fitted up and to have a larger attendance than the others. Here Prof. Gibney gives a very instructive course on orthopedic surgery, with many illustrative cases. In one young woman, who he stated worked in a silk factory, and who had been under treatment for sometime for Potts' disease, the result was marked. In this instance, he said, as she was doing so well, he would replace the permanent plaster jacket with what he called his convalescent jacket, which is applied in the usual manner, and before it is quite dry slits it up in front, takes it off, places a row of eyelet-holes on each side, so that it may be laced, when it is ready for use, and can be taken off and on at the pleasure of the wearer. Noticing a young woman of rather plain and homely appearance present in attendance on the clinic and watching every procedure with great interest, I asked her if she was studying medicine. "O, yes," she replied ; "I am a graduate, but I am taking a six-weeks' course in general and orthopedic surgery." "But," said I, "do you practice surgery ?" "Certainly I do," she said. "I am from New England, but I now reside and practise in the Sandwich Islands, and on one occasion I was called up at night, and rode eight miles through the forest and amputated a man's leg." "Ah, indeed," I remarked; "that is better than some of the men doctors could do." One of the attending physicians informed me afterwards that this adventurous and strong-minded female doctor had been sent to study here by some missionary society.

Here, also, the clinic for general surgery and diseases of the genito-urinary organs is presided over by that accomplished Southern gentleman, Prof. John Wyeth. The material he presents is apt and abundant. He is the Secretary of the Polyclinic and enjoys the reputation of a careful and pains-taking surgeon, with that of an accurate anatomist, having been for some years demonstrator of anatomy in the Bellevue College, and but for extraneous influences would have been professor of either anatomy or surgery in that institution. He is also one of the attending surgeons to Mt. Sinai Hospital.

The gynæcological clinic is in charge of Profs. Wylie and Mundè, the first named one of the former assistants of Dr. Sims, and the latter the author of a well-known practical treatise on gynæcology I was somewhat surprised at the respectable and genteel appearance of many of the patients, who avail themselves of the advantages of these clinics. A great variety of uterine disease is here represented, examined and treated in the presence of the attending physicians.

In addition to the above there is clinical instruction by other gentlemen in diseases of children—of the skin, mind and nervous system, of the throat, eyes and ears, of the chest and general medicine, also in chemistry.

St. Luke's Episcopal Hospital is a noble brick structure, with well-kept ornamental grounds, and located in one of the most fashionable quarters of the city, being on 54th street and 5th avenue. It contains about two hundred and fifty beds, and is one of the most orderly and best governed charities in the country. Having a note of introduction to Dr. Otis, the clever young house surgeon and son of Prof. Otis, I was very politely received by him and invited to visit the different wards. One of the latter contained thirty beds, occupied by little children with various surgical affections, and for the amusement and occupation of the young convalescents were to be seen hobby-horses, dolls and various games suitable to their age. They all seemed to be happy and contented as they cheerfully hailed the doctor as he passed along. It was most assuredly a grateful sight to see these poor little innocents so well cared for, and I could not help feeling deeply impressed with the great amount of kindly charity and benevolence bestowed upon human suffering in this our day and generation, particularly in this great city. If there is great wickedness in its midst, the natural outcome, perhaps, of so dense a population, there certainly is a corresponding goodness among its people that finds expression in the splendid charities built by them for the poor and friendless sick.

During my visit Dr. Abbey removed a double inguinal melanotic sarcoma in an elderly woman whom I had previously seen and examined in the ward. It was a nice dissection and skillfully performed, it being necessary to follow the lymphatic chain of little dark masses well down in the groin. The doctor stated that these melanotic growths were almost sure to return, but thought the present relief and increased lease of life was sufficient justification for operative interference, and further remarked that pigmented moles on the skin frequently degenerated into melanomas. The tumors when cut open were the blackest I ever saw.

Here, as in all the other hospitals, antisepsis is the rule, and is thoroughly carried out. The surgical technique is very elaborate, in fact it appears excessive and unnecessarily cumbrous. Carbolic acid seems to have had its day, though all the instruments used in the operations are immersed in pans containing a weak solution of carbolized water. The wounds are constantly irrigated with the bichloride solution, varying in strength generally from 1:2000 to 1:4000, in accordance with the views of the different operators. The sublimate gauze and bandages are colored with aniline dye, so as readily to distinguish them from other aseptic dressings.

The skeptical views in regard to the almost universal antiseptic method of treating wounds as at present employed by some in high authority in the profession, has not as yet had any effect in curtailing its use, at least so far as I am aware, in this country.

Dr. Thomas, referring to this matter, has very pertinently remarked: "As to strict cleanliness all are agreed. If antiseptics of chemical character are valueless, they at least, in all probability, do no harm. While the question as to their utility is *sub judice* give the patient 'the benefit of the doubt' and employ them." At any rate, since the days of Listerism, whether it is cleanliness, closer attention to details, or what not, the voice of hospital statistics speaks loudly in its favor.

The patients in this hospital, when able to do so, are required to pay something, according to their means, towards their maintenance, though there is no charge for medical or surgical treatment. Private rooms, with all the comforts of home, may be had by those able to afford them. There are no seats in the operating room for visitors, but raised wooden platforms instead, with heavy iron railing upon which to lean, like some of the London hospitals.

The Surgical Armamentarium is said to be the largest and most complete of any of the institutions in the city. In all the wards except the children's the beds have neat white curtains attached to them, so that when drawn some degree of privacy is afforded the occupant; the bedsteads are of iron, furnished with elastic steel springs and hair mattrasses, and are exceedingly comfortable for the sick.

It was with feelings of pride and pleasure that I visited several times the Woman's Hospital, that noble institution for the special diseases of women, when I felt that it owed its existence mainly to the genius, enterprise and perseverance of the honored Southerner, Marion Sims. Many a poor and suffering woman, whose life had been a miserable burden, goes forth from its walls healed of her infirmity, forever to bless his name and memory. The managers are very particular in their admissions; undergraduates, as a rule, are excluded; visiting physicians obtain cards of invitation, generally, through the influence of resident practitioners.

During my visit some very interesting gynæcological work was done, particularly an operation by Prof. Emmet for lacerated cervix and ruptured perineum. In speaking of the latter he said it was an important principle in affording good uterine support to give sufficient upward convexity to the vaginal denudation; it was this principle that gave strength to the parts; especially was this essential where there was a tendency to prolapse of these organs Another point he laid great stress upon was to avoid drawing the sutures too tight, for if this was done they would be sure to cut their way through the tissues, and the result would be a failure. He had no doubt that this was the prolific cause of a want of success by many operators. The illustrative blackboard diagrams, with colored chalks, by which he demonstrated his teachings, were very clear and instructive. Dr. Thomas no longer follows the method as laid down in his book of slow and careful dissection through the integument and underlying structures in a laparotomy, but now rapidly lays open the parts down to the peritoneum with two or three cuts of the knife, taking a hint, perhaps, from Tait's astonishing celerity. In removing a large cysto-sarcoma of ovarian origin, with no adhesion and excessive hydroperitoneum, it seemed to me he was as expeditious as was consistent with due care and skill. He said he was doubtful of the character of the disease and the result before the operation, on account of the depressed and feeble condition of the patient, but now had every reason to hope for a successful issue. The peritoneum was apposed with catgut, the integument with silver wire, and glass drainage-tube inserted. In answer to the inquiry whether enterocele was not more likely to follow use of tube than without, he answered he thought not, that that condition would sometimes occur when no tube at all was employed.

Among all the medical gentlemen I met from different sections of the United States I found but one expression of approval of State boards of health and examination boards for applicants for practice. North Carolina I heard complimented for the work done in these directions. The colleges, too, all acknowledge the influence of the latter, and the consequence is that the standard of requirements for the medical diploma is higher and the examination closer to-day than it ever has been before in the history of this country.

W. W. L., Wilmington, N. C.

A NEW TREATMENT FOR DIPHTHERIA.

Aurelian Springs, Halifax, N. C.

Messrs. Editors North Carolina Medical Journal:

In the latter part of the past autumn our county was visited by an epidemic of diphtheria, an account of which I propose to give from the time it entered the bounds of my practice until its departure.

The first report of it was from the vicinity of Gaston; quite fatal, and said by physicians attending it to be of a very malignant type. Whether introduced by contagion or generated by neglect of sanitary precautions, I know not.

The first case I saw showed all the symptoms of well-developed diphtheria, which are so universally recognized as to need no description. It had been treated domestically until the remedies were found to be of no avail, when I was called in. Being my first case, and not having heard of its presence before, I was unprepared to treat it, and the patient died. Of the 20 cases I treated afterwards all recovered. One negro, aged 18, died several days after all throat symptoms had disappeared, voice restored, appetite returned, etc., whether from a sequel of the disease or other cause is not known. Many of the cases were virulent, and one, when seen, was so far spent that no treatment was attempted, the subject dying in a few hours.

Most of these persons had been treated by domestic remedies before medical aid was sought. The disease generally spread from one member of a family to another, children oftener attacked than adults. Occasionally it would show itself under circumstances to all appearances precluding the possibility of contagion, and the case, though violent, the only one in the family, albeit no precaution was taken to prevent contagion.

The object of this communication is to cite the treatment which was so efficacious in my hands, and which others adopted with so much success after observing its virtues. Dr. Willis Alston, of Littleton, is referred to as an instance.

No originality is claimed as to the different ingredients composing the prescription below, for taken disjointedly they have all been used heretofore and commended. But it is believed that there is no record of their having been combined as below and the virtues of all brought to bear at once. And when this particular epidemic proved fatal in so many cases and under the management of different individuals, and is said to be so still under other treatment, and when the fact is established that its fatality ceased as soon as it was met by the said prescription, it may be well to call attention to it, that its virtues may be further tested.

In a prize essay by the late Dr. E. S. Gaillard, and published in the *Richmond Medical Journal* in 1886, he recommended as a chief reliance in its treatment the following prescription :

℞.—Dilute muriatic acid	ʒ ij
Tinct. muriate iron	ʒ ij
Chlorate potash	ʒ i
Water	℥ xii

Of this two table-spoonfuls are to be given every hour through the day and twice during the night to an adult, less to children according to age.

In a pamphlet issued by the Rio Chemical Company, of St. Louis, Dr. Cool recommended for diphtheria an application to the parts covered by the membrane by means of a mop or probang a mixture of Kennedy's pinus canadensis, ℥ i, and carbolic acid 10 drops. Combining these two remedies, as soon as the patient is seen I commence and endeavor to obtain the constitutional effects of the solution as soon as possible, immediately after each dose of which the mopping is done with the pinus. The membrane turns black and in a few days, at farthest, drops off, not to return again. Amelioration of all the symptoms takes place and convalescence is soon established. At least that was the result in the 20 cases referred to above without an exception. It seems to arrest the disease before it has time to extend to the air-passages, from which cause it is estimated that three-fourths of the deaths result. Constipation was removed by enema—cathartics seldom necessary. Debility treated by alcoholic drinks, milk, eggs, quinine.

One little 7-year old boy had a very severe attack, but recovered so as to enjoy a fine appetite and to play out of doors. He was afterwards attacked with bronchitis and subacute inflammation of the stomach, great thirst, but unable to retain as much as a teaspoonful of water on the stomach, great restlessness, pulse for 48 hours so feeble and rapid as to be past counting. He was kept alive by enemas of milk, whiskey and quinine, with laudanum added to stay the bowels until the stomach recovered tone enough to take milk. Sinapisms to chest. He is now convalescent.

While with pen in hand I will relate a case of diabetes mellitus which apparently arose from a singular cause: An athletic negro man of about 50 years, previously very healthy, was greatly frightened by the late earthquake, immediately after which he began to void great quantities of urine, and became so feeble as to be able to walk, even with the assistance of a cane, only a few steps. He complained of a sense of oppression in the epigastric region. The history of the case immediately excited the suspicion of diabetes, and analysis of the urine showed it to be distinctly saccharine. He was put on diabetic diet and given bicarb. potash gr. 15 thrice daily. The oppression about the stomach left at once, the urine was reduced to the normal quantity. His strength increased steadily, his craving for bread becoming very urgent, he returned to it, but found that the urine began to increase again. Leaving it off, the quantity of urine subsided. He steadily improved and afterwards returned to his usual diet, and now, although not having wholly regained his strength, is able to perform much of his accustomed labor.

R. A. Patterson, M.D.

CURRENT LITERATURE.

THE CENTENNIAL ANNIVERSARY OF THE INSTITUTION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Commemorative Address by S. WEIR MITCHELL, M.D., LL.D., President of the College, delivered January 3, 1887.

* * * * * * * *

The history of any profession in connection with the progress and growth of a new country is of the utmost interest, and of no profession is this more true than of ours. The bar, the army, the navy, and, in other lands, the church, have distinct natural relations to the government, but the physician has none, and in monarchical countries the fact has served to create for him annoying social limitations which are but too slowly fading as communities grow into intelligent disregard of feudal traditions. His position in any community is a fair test of its good sense. But in new lands, peopled by the self-selection of the fittest, by those who have the courage of enterprise and the mental and moral outfit to win for it success, the physician is sure to take and keep the highest place, and to find open to him more easily than to others wealth, social place, and, if he desire it, the higher service of the State. Nowhere was this more true than in this city. In New England the clergy were for a long time dominant. In New York then, as now, commercial success was the surest road to social position. South of it was the landholder, who ruled with undisputed sway. But in this city—I may say in this State—from the first settlement until to-day the physician has held an almost unquestioned and somewhat curious preëminence. He is, and always has been, relatively a more broadly important personage here than elsewhere.

If this be not as clear to you as it is to me, let me remind you that in every legislature of this commonwealth you will find a dozen members of our profession who have for a time taken up the duties of law-givers, intending to return again to their practice. I observe on the list of our Fellows to-day many men—and they are of our best—who have been or who are directors of insurance companies or saving funds, or even of banks, a thing almost unheard of in cities where the lower civilization of commerce is dominant. You will find them, also, in unusual numbers on our collegiate boards. Our great charities are never without some of them in their councils; and the Philadelphia Library is obliged, under the will of James Rush, to have in its direction three physicians. In our hospital boards, and still more largely in our learned societies, they are equally well represented.

Says a learned historian, writing of the Philadelphia of 1828: "Nothing struck me so much as the social force and influence of the physicians. I was familiar with other cities, and nowhere else did they seem to me to be so distinctly the leaders of social life."

* * * * * * * *

Of Rush, Dr. Mitchell said: "With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of briefly recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive and mutinous nature of a man, proud, rather than conceited, got the better of the principles by which he honestly strove to guide his conduct. That he won at last in this contest, was shown by the grief with which a nation mourned his death, when the poor in crowds besought a sight of his face, or, at least, to touch his coffin. Look at his portrait by Sully in our hall. It has the scholar's hands, the largely modelled head, the contemplative blue eyes of the observer, the nose and chin strong, firmness in the mouth, and a trace of too critical tendencies in the droop of the lines of the lips, withal a general expression of tranquil benevolence, a face like the man's life and character, full of dissimilars, with a grand total of good.

"How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry, which made note-books the companions of his student youth, and which failed not until the pen fell from a hand enfeebled by the close approach of death.

"He was a statesman, a scholar, an army surgeon, a punctual and careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled unaided by secretaries or modern means of condensing and relegating labor: one such suffices most men. He was a member of every important political assembly which met in this State while he lived. When timid men fell out of the Continental Congress, he was elected to that body, that he might sign the Declaration of Independence, and was the only physician whose name is on that energetic arraignment of the Crown. I have neither time nor desire to speak of his relations to Washington. He criticised him with his usual courage and with a severity in which at that time he was not alone, and, although later in life he somewhat relented, he never quite forgot the bitterness which arose out of his too famous letter, and to the end of his days looked upon the great leader as one not above the judgment of his fellows. As regards the patriotism of Rush, there can be no doubt. It approached the earnestness of religion, and its very intensity made him unhappy and critical when others seemed to him to be showing that want of energy which in the first years of the war he thought was seen in the Fabian policy of Washington.

"Rush was Surgeon General to the Middle Department, and later Surgeon-General, and served faithfully in the New Jersey campaign and in the dreary camp at Valley Forge. He resigned in 1778, after his difficulty with his chief, and declined pay for his services.

"As a broad-minded philanthropist, I view him with wonder. The higher education of women he urged as a special need of a Republic, and as boldly wrote of public punishments and against the penalty of death. With like courage he denounced slavery, or turned to demand legislation against the abuse of alcohol, or to implore care in the use of this agent in disease, and, although a scholarly man, eloquently represented the waste of time in the too general study by the young of the classical tongues.

"On his medical career I cannot linger. His views as to bleeding were extreme. They were greatly modified in his later years, but have been misrepresented by the enmity his positive nature excited. His ideas on the contagion of yellow fever and its domestic origin, excited the hostility of commerce, and embittered his existence; but, although as to the former he changed his beliefs later in life, as to the latter he seems never to have faltered.

"I presume that he held his opinions tenaciously, and was so conscious of his own general superiority to those about him, that he found it hard to weigh their reasons justly. He says: 'I early discovered that it was impossible for me, by any reasonings, to change the practice of some of my brethren.' Then he adds: 'Humanity was therefore on the side of leaving them to themselves, because what is done in these consultations is the ineffectual result of neutralized opinions; for the extremity of *wrong* in medicine, as in morals and government, is often a less mischief than that mixture of *right* and wrong which serves, by palliating, to perpetuate evil.' How interesting is this irritable confession, which tells so much more of the man than he meant to put into it. Let me add, as a thoughtful physician, that no one can read what he wrote (and I have read most of it) without a strong sense of his sagacious and intelligent originality, and admiration of his clear, and often fervid, style. His work on insanity is a masterpiece. A recent English writer calls his book on 'The Bilious Remitting Yellow Fever' a wonder, and says of that remarkable description of his sensations during the height of the epidemic: 'It is as if he were talking to you, a ghostly whispering through a veil of nine-tenths of a century.' He has been called the American Sydenham. He was not, as I see it, so great a physician, but taking his whole career—and both were earnest republicans—Rush was the larger personage, and surely, next to Franklin, the greatest citizen of Pennsylvania.

"His bitterest foes are best remembered because of the man they reviled. Even before death came to heal all wounds, he stood where few have stood in the estimation of men. He could not but feel this tribute. It gentled the positive and ardent nature, once ready to cross swords with all who dared to differ. He says: 'I was once an aristocrat, then a democrat, now I am a Christocrat.' Certain of his words should have been placed upon his tombstone. With them we may leave him to his repose, near the yet greater Franklin. 'Posterity,' he says, 'is to the physician what the day of judgment is to the Christian.'"

* * * * * * * *

The history of an old and learned institution is that of its members and of its relation to public affairs. No man can hope in the scope of an address to set before you the shining roll of the men who have illustrated our story with duty done simply and in private, of patient, charitable lives, of those larger existences which left their mark, also, on the science of their day, and to this memorable hour have sustained in noble succession the prominence of this city in all that lifts our art and its sister sciences above the common levels of applied usefulness. The task were hopeless and belongs to the historian rather than to the orator.

But our relation to the public cannot be thus readily disposed of. The acts of single men help to give us collective power to interfere in public matters, and here this College has been up to this day potently active. To it came early for advice in all affairs of health and quarantine the city, State and general government; and the minutes amply record that it has labored conscientiously to aid the commonwealth and the city as to sale and importation of pure drugs, as to parks, water supply, education, drainage, and the many other problems which call for advice and direction from experts.

To the physician epidemics are his battlefields. His daily life is hard enough, and, unlike the soldier, he lives amidst constant perils, of which habit has made him negligently forgetful. He is assisted to be unthoughtful as to risks by the fact that the community thinks little of those which are not, like the soldier's, occasional, or which it does not largely share. You must have lost sense of heroism if you do not feel some thrill of pride when you look back with me over those sad years in which the Fellows of this College, amidst the contagion of terror, faced the storms of death which from 1793 to 1804 swept over this city and forever ruined its mere commercial supremacy.

* * * * * * * *

Books are the best tools of our business, and a great library like ours insensibly educates by tempting men with the noblest of opportunities. It is like an unfailing friend to whom we go for counsel and helpful advice, and a catalogue is its ready memory of all that our greatest knew and taught. Look around that great collection in all tongues. It is a vast presentation of the thoughts, the beliefs, the victories, the defeats of that profession which has been, as compared to any other, the purest, the most single-minded, the most simply devoted to its moral creed, the world has seen through all its changeful ages. It has its peerage, its lords of thought, its sturdy, practical commons. Yet here is no set creed of dogmatic beliefs. We make and unmake our rulers, and time, which is more wise than Bacon, has a large vote in the matter ; but while systems of medicine crumble, and doctrines have their little day, and men have been intellectually right or wrong, it is pleasant to remember that the lofty code of moral law our Greek fathers taught has kept through all these productive centuries an invigorating control over the lives these gathered volumes represent. Thus, for him who loves his art, a great medical library is full of lessons in the conduct of life. There, side by side, the feeblest and the strongest meet. What a record of the follies and caprices of learning, of devotion, of martyrdom, of simple usefulness, of ambitious failures ! Here are stately tomes unread for ages. Here is some little volume which has changed the great currents of thought and brought hope and relief to a thousand bedsides. In yonder corner is a modest book-case, which groups the bric-a-brac of the bibliographer ; the mad jesters, the cranks, the queer anecdotists, the priceless incunabula, the medical poems.

I like to think of the book-loving men to whom we owe this collection. Morgan, the scholarly ; Hays, editor for fifty-three years of the best medical journal the world has seen ; Moreton, Stillé, too early dead, with his half-used store of varied learning ; Wood, Betton, Mütter, Gross, the great surgeon, Hodge, the famous teacher of obstetrics ; Lagus, that gentle and modest scholar, who once said to me in his odd way : "I like the men who are like books, and that is why I like Samuel Lewis."

* * * * * * * *

In that last great war we most of us so well recall, whatever we may thought or felt of that section of our race which faced us in fight, of this at least I find it a pleasure to feel sure, that wherever men were sick or wounded, our ancient guild did well its Christ-like duty. As to that record, North and South, there can be neither doubt nor difference.—*Medical News*

We want copies of the "Transactions of the North Carolina Medical Society" for all years prior to 1867, and for the years 1868 and 1873. Parties having any of these to dispose of, will please write to this journal, giving the years which they have and the price wanted therefor.

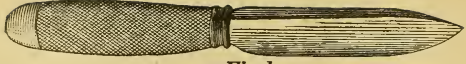

Fig. 1.

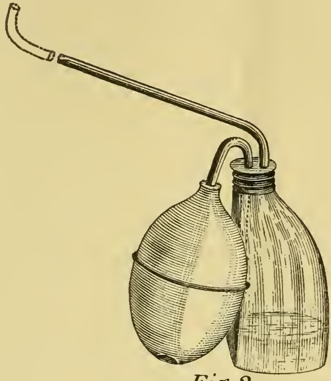

Fig. 2.

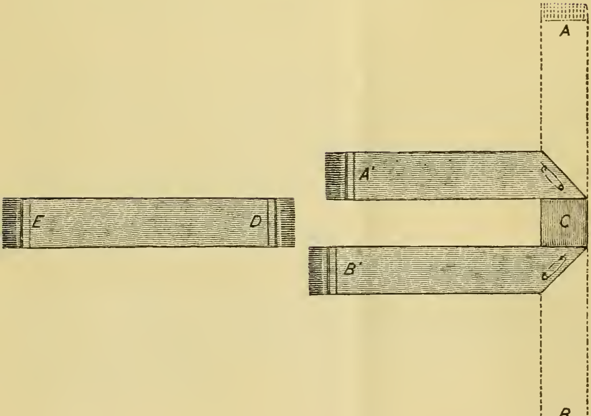

Fig. 3.

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ORIGINAL COMMUNICATIONS.

NOTES ON MINOR SURGERY.

By Edward O. Otis, A.B., M.D., of Boston, Mass., Surgeon to the Boston Dispensary.

The amount of surgery which the general practitioner sees and treats is, I suppose, small in comparison with his medical cases; and, moreover, of this amount the most of it would, I fancy, come under the head of minor surgery, so-called. It is not often that he has to do with a laparotomy or an amputation of the thigh, but an abscess, sprain or burn, for example, falls not unfrequently under his care. The skill and attention which he exhibits in the care of these smaller surgical cases will not only redound to his reputation as a successful physician—often out of proportion to the gravity of the case, for the results are so manifest—but will add much to his own satisfaction in seeing a speedy and successful cure.

I have therefore ventured to write these notes upon the small things in surgery, hoping that they may not be without profit and interest to the readers of the North Carolina Medical Journal.

First, then, let me speak of the appliances and material which the physician should have at hand for the proper and careful treatment of his cases of minor surgery. At the outset let me say that everything should be done antiseptically, as absolutely so as the conditions of the case render possible ; the perfect antiseptic ideal should always be kept in mind.

For holding the few instruments which are needed I find that a glass, earthenware or tin baking-dish, say about ten or twelve inches long and five or six wide, answers admirably well, and something of the kind can almost always be found in every household. This is filled a third or half full with a 5 per cent. solution of carbolic acid, into which the instruments, previously thoroughly cleansed, are placed. For almost any case of minor surgery the following instruments are sufficient : A pair of straight scissors, dissecting forceps, director, probe, dressing forceps, a Volkman's spoon for cleansing out abscesses—though for this purpose one can use one of the blades of the dressing forceps—and one or two scalpels. With some surgeons a narrow curved bistoury is the favorite knife for incising abscesses. I prefer one with rather a short, straight blade (see Fig. 1), except in the incision of a felon, when I prefer a scalpel with rather a large belly upon it, which I use in the following way : With the finger outstretched upon the table, I enter the point of the knife, the edge looking towards the finger end, where I wish the upper angle of the incision to be, the knife being at right angles to the surface of the finger. I then sweep the knife through an arc of about forty-five degrees towards the finger-end, coming hard down upon the bone at last, the knife at the end being nearly parallel with the digit. This manœuvre can be executed with great rapidity, and if the patient pulls the finger away no harm is done and the cut is all the more satisfactory.

For irrigation and cleansing purposes carbolic acid, one to forty, or the bichloride solution, one to one or two thousand, experience has proved to be the best.

With the tablets now in the market this latter solution is quickly and readily made. A glass syringe of from one to two ounces capacity is perhaps the most convenient thing for general use in washing out wounds and cavities, it can so easily be kept clean. A fountain syringe is also good, particularly in the office. A four or five per cent. solution of cocaine and a subcutaneous syringe, to be used only for injecting cocaine, are of inestimable value in small surgical operations. Evulsion of in-growing toe-nails, excision of small tumors, amputation of fingers, circumcision and a host of other small operations can all be done under cocaine almost painlessly. In operations upon the fingers or toes, I have found it well to tie a bit of bandage pretty tightly above the place of operation, and then to inject from five to ten minims of the cocaine solution deeply into the tissues in three or four places. In removing a toe-nail, for instance, I obtained absolute immunity from pain by injecting the cocaine at each side of the toe and at the end. Nitrous oxide (laughing gas) is very convenient and safe for quick operations, such as the incision of an abscess, as is also the primary unconsciousness of ether. For dressings, a box of iodoform, with a wooden spatula or camel's-hair brush, must be always at hand. If one objects to the odor of the iodoform, this can be mitigated by mixing with the iodoform coffee or tonga bean. In hernial sores, where often the odor of iodoform is particularly objectionable, a saturated solution of iodol, which is odorless, in ether, can be used. For cavities, a powder-blower of almost any kind, filled with the iodoform, can be used. I am in the habit of using one like the cut (see Fig. 2), which is also used for insufflation of the posterior nares by attaching a curved tube at A. The advantage of it is that it can be held in, and managed by, one hand, leaving the other free for manipulations. Plenty of antiseptic dressing material also one must have, and that commonly used is gauze (cheese-cloth) prepared with carbolic acid, corrosive sublimate or iodoform. Almost an infinite variety of material has been suggested which shall be the medium of the antiseptic ; it makes not so much difference what it is, provided it is *thoroughly antiseptic* and of sufficient density.

Compound tincture of benzoin is very satisfactory for superficial wounds, the dressing being saturated with it. It can be used either alone or in the combination known as styptic colloid, made according to Mr. Gamgee's formula as follows :

℞.—Tannin	1 part
Tr. benzoin co	2 parts
Collodion	5 parts

This can be applied on a bit of absorbent cotton. One should also have at hand bits of old soft cloth, upon which to spread ointments, absorbent cotton, cotton-batting, good adhesive plaster, and bandages, made of washed, unbleached cotton cloth, preferably.

A pickle or fruit-preserving jar, with a solution of one to twenty carbolic acid in it, is about the best thing to keep one's catheters in, whether they be soft rubber or metal.

For sutures and ligatures silk can be used which has been boiled an hour in one to twenty carbolic acid and preserved in a wide-mouthed bottle filled with a solution of carbolic acid of the same strength, or it can be soaked for a couple of hours in a one per cent. solution of corrosive sublimate and preserved in a weaker solution of the same (one to one thousand). If catgut is used, though I find the silk answers perfectly well, it can be soaked for two days in oil of juniper, washed and kept in alcohol.

For ointments the following are perhaps the most commonly useful: Eucalyptus—one part by measure of the oil to four parts by weight of vaseline; boracic—boracic acid one part and five parts either of simple vaseline or of a base composed of two parts of paraffine to one part of vaseline, and of this base five parts to one of boracic acid; this can also be made of half strength; salicylic—one part of salicylic acid to twenty-nine of the same base as used in the boracic ointment or of simple vaseline; carbolic—made with vaseline of varying proportions, perhaps one to twenty, is the most useful. These are substantially the ointments and the proportions given by Cheyne in his "Antiseptic Treatment of Wounds."

For lubricating catheters I prefer eucalyptus oil or eucalyptus vaseline on account of its fragrant, pleasant odor, and use it in the proportion of one part of the eucalyptus oil to sixteen parts of vaseline, olive oil or castor oil. If an application is to be made to the urethra after passing the catheter or sound, then glycerine must be the base.

Having now made preparations for the treatment of any case of minor surgery which may present itself, let me next speak of some of the more frequently-occurring cases. And first, I will refer to that *bête noire* of the general practitioner as well as the out-patient surgeon, *enlarged cervical glands*, which are too often dismissed with a coat of tincture of iodine and a prescription for iron or cod-liver oil. All the exciting causes in the track of the lymphatics should be looked for and considered—eczema of the head ; parasites. Often have I found that an abundant crop of pediculi capitis was the offending cause. In a child consider, (1) Purulent otorrhœal (2) Ulcers in the mouth. (3) Discharge from the nose. (4) Enlarged tonsils. In an adult. (1) Enlarged tonsils also, and tonsillitis. (2) A carious tooth. (3) A cold. (4) Enlarged caseating follicles in the pharynx. (5) Syphilis.

If the cause can be discovered and removed, the enlargement will often speedily disappear. If no such exciting cause can be found, then it is fair to presume that the gland is a so-called scrofulous one, and for such I have obtained the best results (so far as external applications go) from the ung. hydrarg. iodidi. rubria, of the British Pharmacopœia, well diluted, say one part of the ung. hydrarg. iodidi. to seven or eight of simple ointment. For young children this must be still more diluted or vesication will be produced. A bit of this ointment, about as large as the end of the thumb, is to be thoroughly rubbed in over the gland for from fifteen to twenty minutes every day or every other day. I have also used iodide of potash made into an ointment with lanolin, but have not been able to obtain as good results from it as from the iodide of mercury ointment. In almost every case constitutional treatment is also needed in the form of iron, cod-liver oil or mercury, and it goes without saying that the hygienic conditions should be carefully regulated. Recently, chloride of calcium has been advocated as efficacious in scrofulous glands, given in 10 gr. doses three times a day and gradually increased to 20 grs. [Vide *Practitioner*, London, January, 1886.] In a case of enormously enlarged glands, in which it was used for many weeks, I could detect no especial improvement.

Within the last year or two a number of very suggestive papers have been written upon this subject, the titles of some of which I will give for those who wish to make further investigation :

I. "On the Nature of Scrofulous Glands of the Neck and their Surgical Treatment." By Kendal Franks (*London Lancet*), June 19 and 26, 1886.

II. "The Surgery of Scrofulous Glands." By T. Prigden Teale (*Medical Times and Gazette*), January 10, 1885.

III. "Enlarged Cervical Glands." By H. F. Vickery, Boston (*Medical and Surgical Journal*), March 11, 1886.

IV. "Rest in the Treatment of Scrofulous Glands of the Neck.' By F. Treves (*London Lancet*), June 5, 1886.

Enlarged inguinal glands are also of frequent occurrence, and are a very interesting study, both as to their cause and treatment. Here, again, one should have in mind the cause of the lymphatics which supply the different glands in the groin. Of the superficial glands, with which we have most to do, there are two groups, those above Poupart's ligament and those below. Those above are counted with the lymphatics coming from the integument of the scrotum, penis, parietes of the abdomen, perineal and gluteal regions; those below with the lymphatics coming from the inferior extremity. The long axis of those above is parallel with the leg. If we can then determine the position and form of the enlarged gland, we shall know in what region to look for the cause of the bubo, whether in the genito-urinary, lower abdominal or gluteal regions, or to the leg or foot. In considering inguinal glands one must always bear in mind the possibility of a hernia. The most frequent cause of an inguinal bubo is some irritation in the genito-urinary tract, gonorrhœa or venereal sore; and we may have either a hard non-suppurating gland or a soft fluctuating one. In the former case, besides, of course, treatment directed to the cause of the trouble, one may apply the iodide of mercury ointment as in glands of the neck, keeping, if possible the patient at rest with the leg elevated. In the latter a free incision should be made, either parallel to the long axis of the gland, or perhaps better, at right angles to it, and the interior of the cavity curetted with the Volkman's spoon. Iodoform powder should then be freely applied and an antiseptic dressing, covered with layers of cotton batting, for compression, tightly bound on with a spica bandage. This should remain untouched for several days. A poultice, in most cases, only prolongs the suppuration.

It is remarkable how soon healing ensues under this method of treatment. O. Peterson, a German surgeon, found that in a trial of this method for three years the average time of healing was twenty-three days, while previously the average time was from seventy to ninety days. One meets also with enlarged inguinal glands, the cause of which is apparently some strain in lifting or doing heavy work; here simple rest is generally sufficient. The lymphatics in their course are sometimes inflamed, as, for example, the red lines running up the arm from some injury to the fingers or hand, and the injury may be very slight, too. In such a case painting with tincture of iodine is followed with good results.

Abscesses occurring in different parts of the body, particularly those on the back of the neck, can often be treated in the same manner as suppurating buboes, namely, incision, curetting and an antiseptic bandage. At all events, if a poultice is applied it should not be kept on too long. As a temporary dressing after the incision, until the patient can apply a poultice at home, if one is thought proper, a wad of absorbent cotton, smeared with carbolic glycerine or vaseline is good.

In *alveolar abscess*, a not unusual affection, the mouth and teeth should be carefully examined. If a decayed tooth is discovered about which the mucous membrane is tense, inflamed and boggy, it should at once be extracted, and there will often follow a welling up of pus in its cavity. If the tooth appears sound, about which the inflammation seems to be, scarification can be resorted to. If there is a fluctuating point anywhere about the tooth, that, of course, should be incised, which can be most safely done by a scalpel, guarded by a bit of bandage wound around it to within half or three-qaarters of an inch of its point. A mouth-wash of the following

℞.

	c. c.		
Acidi carbolici........................	0	5	= ♏ix
Tr. myrrh............................	5		= ♏lxxxi
Aquæ ad............................	100		= ℥ iii ss

♏.

is agreeable and disinfectant while pus is being secreted anywhere in the mouth.

When there is an external swelling on the jaw, do not be in a hurry to incise it, for possibly suppuration may be averted and the risk of a fistula avoided. Contractile collodion or a solution of carbolic acid, one to twenty, are sometimes effectual as abortives. If fluctuation is made out, or there is great pain and throbbing, an incision will have to be made, and when attempted should be deep enough to strike the pus, down to the alveolar process itself, if needed. In such a case as this ether had better be given and the incision carefully made. A pair of dressing forceps used as dilators will safely enlarge the opening.

In threatened *abscesses of the breast*, where the gland is hard, tense and exceedingly painful, an attempt, often successful, should be made to avert suppuration. The first and most important thing to do is to apply support and compression. To accomplish this an arrangement with two towels known about Boston as the "Richardson" bandage, first devised by Dr. W. L. Richardson, of the Boston Lying-In Hospital, seems to me to be the easiest and is very effectual. It is made in the following way (see Fig. 3): A towel, A B, is folded lengthwise about five inches wide. The two ends are then folded diagonally so as to be parallel with each other, A B, leaving space enough to embrace the breast between them. At C the end D of a second towel, folded lengthwise like the first, is attached with safety-pins, and being carried around the back, meets the ends of the first towel, when all three ends, A' B' and E, are united by safety-pins as before. A piece of cloth or bandage can be carried over each shoulder and pinned to the towel bandage to hold it up, if necessary, while the patient is walking about. Beneath this towel bandage cotton-batting or absorbent cotton can be placed so as to make compression. Various applications have been suggested to prevent suppuration: spirits of turpentine, applied on a cloth; an ounce of carbonate of ammonia in a pint of boiling water, applied assiduously for half an hour, and repeated in from two to three hours; lead and opium wash; spirits of camphor. In one case in which I tried the spirits of turpentine I was not successful. If the mastitis goes on to suppuration a good free opening must be made at the most dependent portion and a drainage-tube inserted. Here, again, a good antiseptic dressing, firmly applied, is better than a poultice, and will bring about a more speedy cessation of suppuration and a quicker recovery.

Chronic varicose ulcers of the leg, though so often regarded as exceedingly uninteresting cases, because they are so frequent and so chronic, have very much of interest, particularly in their treatment, to the reflective and ingenious physician.

As to local treatment, the applications and methods are innumerable. Some do well, often being cleaned up by a poultice for a few days, under a good layer of iodoform. In others I have found compression, by means of strips of mill-board, applied over cotton-batting with a firm bandage, successful. When the edges of the ulcer are indurated and brawny, and the ulcer itself unhealthy-looking, with a thin, watery discharge, the unguentum hydrarg. applied over both ulcer and edges, is often speedily successful in stimulating the parts into a healthy condition. Blisters about the ulcer on the indurated borders, I have also found of service. Whatever the application, the leg should be firmly bandaged from foot to knee.

Sometimes, after everything else has failed, thoroughly curetting the ulcer will be the beginning of a successful termination.

The rubber bandage, the silk elastic stocking, a bandage made of Shaker flannel cut bias, so as to increase its elasticity, are all useful.

The general condition needs often quite as much care as the local. As a rule it is below par, and besides good food and hygienic surroundings, a tonic is indicated. One like the following, from our Dispensary formulary, I am fond of giving:

℞.

Strychniæ sulph................	04 grs.	= gr. 3-5
Ferri sulph....................		
Cinchoniæ sulph., āā............	1 5 grs.	= gr. xxv
Syr. simp......................	100 c. c.	= ℥ iii ss

♏. Sig. teaspoonful 3 t. d., after meals.

The preparation known as the syrup or elixir of the triple phosphates is also good. Again, iodide of potash seems best to fulfil the indications.

I have been struck with the complaint made by so many patients suffering from chronic ulcer of inability to sleep. This must be attended to and care given that the nervous system has complete rest. The heart must also be looked to, and if found feeble and weak, toned up with digitalis or whatever seems the best drug for its special condition.

Scalp wounds, particularly those over the eye and on the forehead, are a class of injuries which do remarkably well under cleanliness and antiseptic dressings, but give no end of trouble if not carefully and properly attended to. How often have I had a scalp wound brought to me several days after its occurrence, which had been closed tight, with no attempt at disinfection, by the sticking-plaster of an officious apothecary, the œdema, swelling and pain indicating only too truly that abundant germs have been shut up in the unclean wound, and a gush of pus following the removal of the plaster. With careful cleansing by the carbolic or bichloride solution, followed by a thick layer of iodoform and an antiseptic pad, healing generally readily ensues, but alas! often with an unseemly scar, which might have been avoided if only, in the first place, cleanliness, antisepsis and a careful approximation of the edges of the wound had been done. Moreover, all suppuration is dangerous, and particularly so is it about the scalp, whereby it may extend rapidly and induce grave cerebral trouble. When pus collects in the loose bag of tissue about the eyebrows, after pressing it out and disinfecting the cavity, a small antiseptic pad, tightly applied, will expedite the glueing down of the surfaces.

Sprains are a frequently recurring class of injuries which often tax the resources and ingenuity of the surgeon as to their best treatment. Those of the ankle and wrist are the most common. In both it is sometimes difficult, if not impossible, to distinguish between a fracture and a sprain, or even a partial dislocation. If doubt exists as to which of these it may be, it is a safe way to immobilize the joint, and this can be done either with ordinary splints, with the mill boards, as described in the treatment of ulcers of the leg ; or, if the physician can watch it carefully, with a plaster of Paris bandage. Even if the diagnosis of a sprain is clearly made out, and it be a severe one, as indicated by the amount of swelling and pain, immobilization is perhaps the best treatment. It is often a nice question to decide when to begin passive and active motion. If the sprain is a less severe one, a douche with hot water, as hot as can be borne, applied for an hour or two even, and frequently repeated, I have found a most efficient and comfortable treatment. Contractile collodion painted over the joint, as first suggested by Dr. A. N. Blodgett, of this city, I have found of value, giving both a certain amount of immobilization and compression. I would refer the reader to a most excellent paper upon this subject by Edmund Owens in the *Practitioner* (London) for August, 1886.

In sprains of muscles and vague injuries about the trunk I have often obtained great and permanent relief by tight strapping as for fractured ribs ; and I will also mention in this connection the wonderful relief obtained by strapping the chest so as to immobilize the intercostal muscles, in the excruciating pain of acute pleurisy. Here, however, instead of applying the strips of plaster parallel to each other around the chest, one can obtain greater immobility by applying them at an angle to each other, as in strapping an ulcer.

For *burns* I am fond of using either the boracic or eucalyptus ointment. The latter at first, and the former later, when more stimulation may be needed. One should always bear in mind the tendency to contractions in burns, and keep the part in its natural position as near as may be. If, in spite of careful attention, contraction ensues, and sometimes it is inevitable, let the ulcers first thoroughly heal, and then begin movements to overcome the deformity. Carron oil, which has been for so long the regulation application to burns, is both nauseous and septic.

All *fresh wounds* should be treated with thorough antisepsis and not disturbed for a week, or until healed, unless pain or discharge indicates that the antiseptic dressing has failed, or rather that the surgeon has not succeeded in his antiseptics.

In *suppuration about the hand* pus travels with great rapidity in the smooth track of the tendons, and free incisions should be made at once ; it is the only safe and sound practice. In the case of a young man who came to the dispensary with suppuration in the palm of the hand from an abscess in the finger, all suppuration ceased in two days after a free opening under ether. Delay is dangerous whenever suppuration is going on, and nowhere more than in the hand.

With regard to *foreign bodies*, needles and the like, there is only one rule to follow : if you do not feel the body and there is no evidence of inflammation, let it alone ; do not cut and grope around for it. " Only attempt to remove a foreign body if you can feel it."

In closing these desultory notes I wish to impress upon my readers the *influence which the condition of the general health exercises upon the healing of wounds and ulcers.* Let me give an illustration or two : After the excision of a long-standing unhealthy ulcer of the prepuce, healing went on satisfactorily for a while, and then, quite mysteriously, the wound began to take on an unhealthy condition and ceased to heal. On inquiry it was discovered that the man had been indulging in stimulants, and these being stopped, healing ensued. Again, in a girl with a small ulcer upon the leg, no application seemed to produce the least beneficial effect upon it. The girl showed some evidences of anæmia and iron was given. Almost immediately the ulcer began to improve and soon healed.

After all it is the so-called slight ailments and minor surgery which demand the acumen and judgment of the physician quite as much as the graver cases ; and, moreover, it is the judicious and painstaking attention to these smaller cases which happily prevents them from terminating in more serious ones.

OPERATION FOR NECROSIS OF THE HUMERUS.

By A. A. MAYNARD, M.D., Cairo, N. C.

J. S. B., boy, aged 15 years. On the 22d day of October, 1886, I was consulted for the first time by the father giving the following history: Two years ago, November, 1884, the boy was taken with severe pain in the right shoulder, accompanied with very little redness, but skin was tense, unusually œdematous and very sensitive to touch. He was treated by the attending physician for rheumatism, but in the course of three weeks fluctuation was detected and an incision was made to evacuate the pus that was supposed to have collected. When the incision was made very profuse suppuration followed, and has continued until date of operation, other sinuses having formed in the meantime, and it was noticed in six or seven weeks that small particles of bone were being thrown out, mixed with the pus that was discharged through these fistulous openings. This fact was made known to the physician who had been treating the case, and tinct. ferri chlo. gtts. xv, t. i. d. was prescribed, leaving the balance to nature. I requested the father to bring his son to my office for thorough examination, and when he came the next morning I found him rendered somewhat anæmic from the long-continued drain upon his system, being of two year's duration, and very poorly developed for a boy of his age. On examination I found five sinuses, three on top of the arm, the upper one being near the shoulder-joint, through which a spicula of bone was projecting; also one in front and one behind the arm. All these sinuses would readily admit the probe and were in a state of suppuration. I found the inferior surface of the bone seemed to be sound, though it appeared to be in a triangular shape. I was fully convinced that there was a considerable amount of dead bone present and advised an operation. The boy left undecided, though in a few days consented to have the operation performed. I summoned professional aid, and on November 9, 1886, I proceeded to the work. He was placed upon the operating table and anæsthetized with chloroform; then a straight incision was made external to the deltoid muscle down to the necrosed bone, making the line of my incision the three sinuses upon top of the arm. I found, on separation of the periosteum, complete necrosis of the humerus, and extracted three inches of the entire bone, which was detached and imbedded in the muscular tissues forming a pus cavity. After extracting the bone, I scraped off all the dead tissues which surrounded it. No hæmorrhage scarcely, except from the circumflex artery, which was arrested by torsion. I used carbolic acid solution 1 to 20, and closed the wound with interrupted sutures—wound dressed and patient placed in bed. It is important to state just here how repair of bone will take place, even under unfavorable circumstances. The triangular bone to which I made reference was entirely new bone, which had been thrown out by the upper part of the humerus, attaching itself to the inferior surface of the lower part of the humerus, and the humerus now presents somewhat the shape of a gun-barrel with a bayonet attached. Though this new bone was not at all in the natural position or shape, having formed below the necrosed bone, yet it seems to be strong and sound. My patient rallied after the operation without the least shock, nor was there any nausea or vomiting. I had directed him not to take any breakfast that morning, consequently there was no undigested food to be vomited.

On the afternoon of the second day his temperature was 100° F., and the wound was in a nice condition. He was taking sulph quin. grs. x per diem, also syr. ferri iod. gtts. xv, t. i. d.

Fourth day, temperature normal and wound healing nicely, being dressed every twenty four hours; union by first intention except where the incision went through a sinus. I saw him three weeks after the operation, just before I started to my new location. His general health was improving rapidly and the wound about healed, those old fistulous openings filling by granulation. He wrote me several weeks ago that "his arm was almost entirely well, that he had been hunting, had killed two partridges at one shot, and was very proud he had the operation performed." He is now well and in school.

Linseed Oil as a Remedy for Itching.—A correspondent of the *Boston and Medical Surgical Journal* recommends the inunction of linseed oil as the best of all remedies for arresting the distressing itching of the anus with which so many persons are afflicted.

SELECTED PAPERS.

THE DIFFERENTIAL DIAGNOSIS OF CANCER IN THE MESENTERY.

By W. C. Van Bibber, M.D., of Baltimore. Read before the Baltimore Academy of Medicine January 18, 1887.

It was a surprise to me, whilst making some investigations connected with this paper, to find that the differential diagnosis of cancer in the mesentery may almost be considered as a new subject. To present the matter clearly, there are so many points to be submitted for consideration, and such a necessity that each one should follow the other, in a proper sequence, that there is evidently a choice of ways in which the subject may be presented.

Fortunately the high authority of Lord Verulam is applicable in such an emergency. He advises to commence by what he terms "the opening of the way." By this is meant a statement of the facts connected with the case, and of these facts I have a record of three cases with which to begin.

Case 1.—Miss Mary B——, aged 23, had been healthy as a child, a girl and a woman, until about the middle of November, 1884. She was at that time engaged in teaching school, and being placed under favorable circumstances, there was no known cause to which her sickness could be attributed. She commenced by complaining of pain in the back. Soon the pain was referred to the left side, and gradually became more diffused and incessant. Yet as to location, it was always referred to the left side; sometimes in the hypochondriac, then in the lumbar, and sometimes again in the iliac region. The pain was always described as a deep-seated, internal, never-ceasing pain. Of its character there was less uniformity; sometimes it was said to be lancinating, making her cry out. Again, it was steady and constant; sometimes shifting from point to point, over a surface embracing the three regions mentioned. She had been attended during the course of her sickness by several physicians, who had tried many means of alleviating this pain, but without success. Finally, whilst Dr. J. Houck was her attending physician, I was called in consultation. I first saw her on the 10th of February, 1886, after she had been sick and under treatment for about a year and four months. I had no difficulty about expressing a diagnosis. A large tumor in the hypochondriac region with well-marked pointing and fluctuation over the middle of it, accompanied by pain, a weak, thready pulse, and a general cadaverous appearance of the patient, left no doubt in my mind that it was an abscess, and most probably of the spleen.

To my great surprise, however, Dr. Houck's longer study of the case had taught him to think quite otherwise. "There can be no abscess," said Dr. Houck, "because at no time has there been any rigor, and the thermometer has never been above normal, but, on the contrary, most frequently it has been sub-normal."

Notwithstanding this evidence, such was the firmness of my conviction that, at my earnest solicitation, it was agreed to return the next day and aspirate the supposed abscess.

In the meantime warm poultices were ordered to be applied to the spot where "pointing" was then so distinct.

When we returned the next day the appearance of the parts had entirely changed. The size of the tumor had subsided, there was no longer any pointing or perception of fluctuation. Such a change was scarcely credible, so that the needle was passed deeply in at the point where fluctuation was so distinctly felt the day before. No pus was obtained.

Prof. S. C. Chew saw the patient with Dr. Houck and myself on the next day. He declined making a diagnosis. The patient died on the 20th of February, 1886. On the 21st, when we were assembled for the autopsy, I again committed myself to the diagnosis "of an abscess somewhere, most probably in the peritoneum." Drs. Houck and Chew again declined committing themselves to a diagnosis.

The autopsy was made by Dr. Claude Van Bibber, who has furnished this report: "Body emaciated and pale. Only the abdominal cavity opened. Immediately on dividing the peritoneum a large hard mass presented in the umbilical, the left hypochondriac and lumbar regions. Examination showed this to consist of the mesentery, which was immensely enlarged, and as hard as cartilage. It was irregular in shape, and involved in the disease was the left kidney, enlarged to the size of a cocoanut, and very hard. On section its tissue was dense and fibrous, no trace of kidney structure remaining. The right kidney was enlarged, but upon section the structure was normal. The small and large intestines were completely devoid of fat, and had a thin and shrunken appearance. The other organs were normal."

Dr. Chew took the specimen to the John Hopkins University to have it examined microscopically. It was the intention to exhibit it to this Academy with this paper, but unfortunately the specimen has been lost.

Case 2.—H. Sardine, aged about 65, whose disease was of more than a year's duration. He was a private waiter, temperate, well and comfortably provided for, and no adequate cause could be assigned for his sickness. His early symptoms are indefinitely described, but consisted for the most part of constant and deep-seated pains in the abdomen, with constipation. When the bowels were forced by purgatives the pains increased, and toward the last were principally in the rectum. For these reasons, and also from the character of the moulded fæces, the diagnosis of his physicians was "stricture of the rectum."

Dr. Nathan Gorter, assisted by Dr. Claude Van Bibber, made the post-mortem examination of this case. Their detailed report of the autopsy is long and minute, so that those points only which apply to the subject now under consideration will be given. The report says: "The mesentery was the part most completely involved in the disease. It was harder than cartilage, and equally without vascularity. It was four inches thick and twelve inches broad. It pushed the other viscera from their situation *in situ*. The meso-colon was largely diseased, as olso the meso-rectum, which gave reason for the diagnosis of "stricture of the rectum."

Case 3.—Mr. F——, which I reported in the "Transactions" of the Medical and Chirurgical Faculty of Maryland in 1876. The diagnosis before death was "cancer of the omentum." The autopsy was made by Dr. C. F. Bevan. A synopsis from his report says:

"The omentum was small and atrophied; stomach, liver, spleen, pancreas and kidneys normal, small and large intestines normal except in size and color. They were thin, shrivelled and wasted, and of a peculiar pink hue. The mesentery alone was diseased; it was three inches thick by fifteen inches broad. Microscopically, in consistence it was harder than the hardest cartilage. No trace of a single vessel in it could be found. Microscopically it was examined by Professors

Bevan and Tiffany. The cells found were of a mixed and undefined character."

I have not been able to find any case like this on record, and more will be said of it hereafter.

There are three cases and three autopsies. The scalpel revealed three cases of cancer of the mesentery.

There were three mistakes in diagnosis. One case was mistaken for abscess of the spleen, another for stricture of the rectum, and the third for cancer of the omentum. The object of this paper is to show, if it is possible, how cancer of the mesentery may be recognized with greater certainty.

So far as my study of the subject has gone this is a point which needs elucidation and authority.

Without tracing the subject further back than 1855, the date of the issue of "Copeland's Medical Dictionary," which was supposed to be the most comprehensive book of its time, I fail to find in it, or in any of the many excellent systems or compendiums of the Practice of Medicine which have been published since, or even in any of the special works upon diseases of the abdomen, any detailed assistance towards the "differential diagnosis of cancer of the mesentery." It is casually mentioned in some of the authorities, but not especially dwelt upon.

Yet I cannot assert that much more than I have been able to find may not yet be contained in the wealth of the National Library, or referred to in the "Crœsus" pages of the Index Medicus.

He who has more of the excellent and exceeding virtue of the Patriarch of old than I have, or whose days go further towards the days of the son of Enoch than any of us can expect to go, must complete the search and correct me if I am wrong.

The suggestions which will now be made concerning the differential diagnosis of cancer in the mesentery and the points to which attention will be called are, the frequency of the disease, some of its anatomical peculiarties, its duration, its symptomatology and pathology.

One point to be taken into consideration in the diagnosis of any disease is its frequency. The importance of any disease, in general practice, is also measured, in some degree, by its frequency.

In what proportion of the cases of abdominal disease mesenteric cancer occurs is, as yet, not numerically etablished. The data which I can give, or have been able to collect on this point, can scarcely, as yet, be considered as even a basis for conjecture.

The number of autopsies which I have made in my own private practice, together with those at which I have assisted in the private practice of others, amount to 152. Of these three deaths have occurred from malignant disease of the mesentery. But this will give no real data for the proportional frequency of this disease, because the autopsies made in private practice are only occasional opportunities and are principally of recondite cases, of which a diagnosis during life was most difficult.

Of the 152 post-mortems 68 were of abdominal diseases. In 1 the mesentery alone was affected. In 2 the mesentery was so much more affected than any other organ that it was reckoned as the cause of death. In 7 other cases the mesentery was, more or less, involved in the malignant disease. This gives for the 68 cases 14.7 per cent. of mesentery disease. This may be considered too large a proportion for abdominal diseases generally; but it is intended to approximate to the proportional figure for malignant diseases of the mesentery when other abdominal organs are involved.

The next point to which attention will be called is, what assistance can be obtained for the diagnosis of mesenteric cancer from a study of the anatomy of the part?

It will be admitted, upon reflection, that the means to be commanded and the physical explorations which can be used to facilitate the diagnosis of disease of the mesentery are necessarily limited. The exclusion of other diseases holds a more prominent place in this than in the diagnosis of almost any other organ. Otherwise than by exclusion the diagnosis must be made entirely from symptoms which must be studied.

In order to show this important point more clearly, let me recall to you a few points in the anatomy of the mesentery. M. Sappy, who is high authority upon the anatomy of the viscera, says: "In measurement the plane of the normal mesentery is not larger than the hand. It is six inches long by four in width. It is a membraneous pedicle to which the convolutions of the intestines are attached upon its moveable border. This pedicle, of an irregular quadrilateral figure, extends from the left side of the second lumbar vertebræ to the posterior border of the cæcum. Its direction is not vertical, but a little oblique from top to bottom and from right to left. It is highest in the middle part and arches to its extremities. Firmly attached posteriorly, it undulates with a fluted border, and has been compared to a fluted cuff, the outer edge of which bears, like a ruffle, the small intestines from the jejunum with the ilium to the cæcum. The mesentery is formed by a folding of the peritoneum two blades, upon each other. Between these blades, from the base of the pedicle, run voluminous arteries, corresponding veins, lymphatic ganglions and a quantity of cellular tissue. Such are the parts which compose this membrane." The anastamoses of the arteries are free and numerous. They anastamose with the colic, the sigmoid and the hæmorrhoidal arteries.

A knowledge of its anatomical peculiarities, as compared with those of other organs, may assist the study of its diagnosis in disease.

It is important to observe that, as a pedicle, the mesentery is attached behind to a thick and hard base, and cannot be approached by the sense of touch from any direction. It is not possible to reach it by sight or sound, therefore the senses are excluded from our means of diagnosis.

In order to show yet more clearly the difficulties to be encountered in the diagnosis of disease in the mesentery, let it be compared, in this respect, with the diseases of the viscera in the other three cavities of the body.

In the encephalon, some of the means now relied upon for a diagnosis, are the knowledge possessed of the localized functions of the separate parts of the two brains, together with the tracings of the nerves which go out from these organs. This, in its entire embrace, is one of the most absorbing studies of the day, and is being advanced with industry.

The means for the diagnosis of the diseases of the viscera within the cavity of the thorax are amply facilitated by four of the senses.

The viscera in the cavity of the pelvis, by the same, and even more largely assisted by other means, especially by instruments.

But the changes which occur in the mesentery cannot be thus aided by physical exploration. Other means must be relied upon.

What is the function of the mesentery? Although it is necessary to the support of human life, it has no active function. It simply serves as a support, or a table, for the transmission of vessels going to organs which sustain life. When a free flow through these vessels is being gradually obstructed, health must be impaired, and finally, when completely obstructed, life must be extinguished. A knowledge of what changes may occur while this process is going on is worthy of study, and, to assist in demonstrating this point, there are three prominent analogues of similar pedicles and pediculated bodies to be found in the human body. These are the roots of the lungs, the spermatic cord and the ovaries. It is scarcely within the range of fair anatomical definition to speak of the neck as the pedicle of the head, although in certain diseases of the neck the circulation of the blood in the head is impeded.

The lungs have no vascular connection with the body except through their roots. They are otherwise completely isolated. All that enters into the parenchyma, or substance of the lungs, in health or in disease, or what is removed from them in this latter condition, must pass through the roots of the lungs. Diseases in the roots, as well as in the substance of these organs, may be recognized by various means of diagnosis, and it is known that when the disease involves the root, the body of the organs beyond suffer in a peculiar manner. The peripheral circulation, both of ingress and egress, are impeded, and those who treat diseases of the lungs with these facts before them, have advantages. In pneumonia, for example, how can the masses of plastic deposits be removed except through the roots of the lungs?

The same may be said for the testes and the spermatic cord. I am now treating a case in which the circulation through the spermatic cord of the right side is nearly obliterated, and the testicle upon that side is correspondingly affected.

The diseases of the uterine ligaments, which transmit vessels to the ovaries, are sometimes difficult to diagnosticate, but these are more easily reached than the mesentery, and the rules which govern the diagnosis in the one case cannot all be applied to the other.

Duration of the disease. There is but little certainty as yet upon this point, because there are not enough cases collected from which to obtain an average. It may be said, as a rule, that cancer is a disease of long duration. In my own cases, all three of them were under treatment more than a year. The nearest approximation to which I can arrive is forty months for the three cases. This gives an average of 13.3 of a month for each case. The difficulty consists in not being able to determine the initiation of the disease.

By what train of symptoms, when grouped together, may the disease be first suspected ?

A rule which may be applied to the answer of this question may be expressed somewhat in this way. Granting that an existing disease, in any individual, can be fairly located in the abdomen, then, if it be obstinate, unrelievable and progressive, malignancy may be suspected or inferred. Again, if in the progress of the disease the symptoms do not show by well-known pathognomonic and individual symptoms that other organs are involved, as, for example, the stomach, the liver, the pancreas, spleen or kidneys, then it may be inferred that some rarer form of disease exists. Such a train of reasoning may, by being closely followed, finally lead up to the opinion that there is cancer of the mesentery.

What are, besides these, its own pathognomonic symptoms ? The three cases which I have reported had one symptom in common. But the third case, given, viz : that of Mr. Fondriat, is remarkable. So far as I can find out, it stands solitary and alone, in the fact that the mesentery was the only organ found involved in the malignant disease. The post-mortem was made most carefully and in the presence of many experienced physicians, hence the history and prominent symptoms of this patient may be interesting. He was 68 years of age and of a strong and healthy figure. His occupation had been formerly a distiller and latterly a lace-finisher. He had always been temperate. His symptoms, from the beginning to the end, were those of an aggravated and increasing indigestion or dyspepsia. He had constant uneasiness in the abdomen and many acute and prolonged pains. These pains were always referred to the region of the mesentery. The most painful symptom was an obstinate constipation. For the relief of this he used powerful purgatives and enemas. The action of these remedies was invariably attended with intense suffering, and generally with the expulsion of a small amount of fœcal matter. He had disturbed sleep, anorexia and emaciation. He had, beside these, many other wandering pains, but the great peculiarity of his pain, and also that of the other two cases, was that of being deep-seated, constant, sometimes acute and lancinating in character, at other times dull and wearing. These pains were always referred to the region of the mesentery. Under anodynes the pain would be ameliorated, but only to return as the anodyne effect wore off.

This is what may be said for the symptoms; concerning the pathology, the third case reported may be considered a rare opportunity and a treasure. The mesentery was the only organ involved. It is a solitary case, consequently the pathology of the disease, so far as I can give it from my own knowledge, must include only this one case. All the other cases had complications.

It was well put by Prof. Bevan: "The small and large intestines," he said, "were normal, except in size and color they were thin and shrivelled and of a peculiar pink hue."

This might have been anticipated from the nature of the disease.

All blood supply and vital activity had been cut off from the intestines.

The same fact and illustration of the same principle may be seen in nature every day. They may teach us.

A full-blown flower, when the circulation of its sap is impeded by a disease, or a break in the stalk, shrivels and changes its color as it dies.

There is another law supposed to govern the frequency of cancer in the abdominal organs which should be mentioned. It is this: that the abdominal organs are attacked with malignant disease in numerical frequency according to the supposed activity of their physiological functions. Thus, first the stomach, then the liver, third the intestines, and of these latter the most frequent points for malignant diseases are the cæcum, the sigmoid flexure, and lastly the rectum.

Judged by this law of function alone, malignant disease of the mesentery might reasonably be expected to be of rare occurrence.

Concerning the diagnosis of cancer of the mesentery, I have shown that in frequency it may be expected in 14.7 per cent. of all malignant abdominal diseases. If it is thought that this is too large a proportion, time and further observation will prove it to be so.

It must be remembered that this is an approximation to the number of cases where the mesentery is involved in the malignant disease together with other organs, not where it is primarily affected and the sole organ diseased.

I have endeavored to show not only how a study of its anatomy as a pedicle, and its use as a support for the circulating vessels of the intestines, may assist in the matter of a diagnosis, but I have tried also to show how its study, together with its analogues, as a pedicle, may illustrate many practical points of interest and usefulness.

Further than this I have shown what character of pain may be expected to demonstrate the disease and how the diagnosis may be facilitated by a careful study of the character of the pains.

In the single case, which has been brought forward so frequently, it is believed there is not one like it upon record, and it well deserves to serve as a starting point in the study of the differential diagnosis of cancer of the mesentery.—*Maryland Medical Journal.*

MEDICINE AND PHARMACY ABROAD.

Read at the Third Annual Meeting of the New York State Medical Association, held in New York city, November 16th, 1886.

In all the nations of civilized Europe this interest is recognized as being of superior importance, and is under more or less of legal and moral restraint and control. In no nation, not even in Great Britain, is this interest so nearly a free trade as in this country. The theory is that all governments, that of this country included, have laws for the protection of the people against the pretensions and deceptions of quackery, and deficient knowledge and skill in the important art of medicine, but certainly in no nation has this art become debased so nearly to the level of the money-making trades as in this country; and Great Britain seems to rank next in this unenviable debasement, while Denmark and Sweden seem really to have the interest under the best practical control. Not that the science of medicine is as advanced in these nations as in Germany, for example, nor the art practiced with so high a degree of knowledge and skill as in England and this country, but it is simply under better control, and therefore the people's interests in it are better protected.

In counting the physicians' offices in the large European cities, and trying to compare the numbers with those of Boston, New York, Philadelphia and Baltimore, it seemed to the writer that in the latter cities the numbers were more than double. In the European cities street after street of those occupied as residences would be traversed with but one or two doctors' signs, or with none at all. And among the few signs the number of comparatively new ones was very small indeed. From occasional glimpses into these offices, or at least into the front rooms, through open windows, they were judged to be very plainly furnished, hardly what would be called comfortable, and never luxurious, whilst the absence of any degree of ostentatious display marked the infrequency of the quackish class. The number of physicians' vehicles that could be in any way identified as such, in the streets during the customary hours for visits, was so small that a pretty close scrutiny was needed to find them at all. Indeed, the conclusion was reached that in those cities physicians must generally walk or use public conveyances, and this conclusion was strengthened by seeing that visits to patients at hotels were commonly made on foot.

There is no such thing as recognizing these physicians as a professional class, and the very few seen that were identified by circumstances were very plain and simple in dress and manner, and in dignity of bearing hardly supported the importance of the profession. Some indication of their popularity as a class, or of the general impression of their utility to the public, was sought for in vain; nor was it practicable to ascertain how far their counsels extended among the masses, how far they were accepted, or how far their instructions were carried out, but from slight indications it is supposed that their standing and influence is greater than in this country. And this should be true if for no other reason than that their art is practically free from the debasing competition of advertising quackery and nostrums.

The pharmacies of European cities offer a much more striking contrast to those of this country. In England and Ireland they appear to be similar in character, but perceptibly less numerous. In Scotland they are less conspicuous and less numerous than in England, and in France the character and number are still further modified for the better. But it is in other European cities that the contrast becomes most marked. As a broad generalization it may be that in number they reach one-third of the number in this country, but probably not over one-fourth; but the contrast in character and appearance is still more remarkable than in number. Never near together, they are commonly in prominent locations, and not uncommonly appear to occupy the whole of a small building. No show window, nor colored bottles, nor any other form of display. Windows of ordinary size and character, and used only to admit light, except that they may occasionally have one or two growing medicinal plants. No glaring nor large signs anywhere, but generally a small one over the entrance door with the name of the proprietor, and the word "Apotheke." Inside the door is a clean, clear space occupied by a few chairs. Then a very simple counter without show cases, and without furniture, or with one or two scales of large size. Behind the counter, and with their backs towards it, are from one to four clerks, each with a prescription scale and measures, engaged in putting up prescriptions or orders. Besides these, the proprietor or his representative appears to be engaged in receiving those who enter, aud in superintending the work of the clerks. As a general rule males who enter remove their hats as soon as the door is passed, and remain uncovered until they are served and go out. In many visits to such pharmacies very few verbal messages were noticed, almost all messengers bringing written orders or prescriptions, though they often received only a single article. The proprietor or disengaged clerk receives the order and invites the bearer of it to sit down, and not once was a messenger seen to sit down without being invited. Often not a word was spoken until the order was supplied and presented, when the clerk would mention the price, or the messenger would ask for it, and as a rule conversation seemed to be avoided. The clerks were generally of mature age, intelligent-looking, personally clean and well, though very plainly dressed. The furniture and apparatus was clean and in good order, but clumsy, and there was a notable absence of gaudy over-gilt labels and ostentatious decoration of anything, everything being plain and substantial, even to ugliness and clumsiness. Not a patent medicine card, nor any proprietary article in sight, and no perfumery, fancy goods, soaps, cigars, wines, waters nor soda fountain in sight. In short, the whole pervading tone was of quiet, earnest and accurate work of a high order, carefully done, and this tone gave a dignity and an honorable rank to the whole place. The writer commonly made an errand of buying a few grammes each of ether, chloroform and carbolic acid, articles the quality of which could be fairly judged by their sensible properties, and such purchases gave access to the pharmacies and opportunity to observe the work. The first of these orders was given in Copenhagen verbally through a clumsy mixture of bad French and worse Latin. The clerk, a very young man, very respectfully suggested English, in an excellent specimen of that tongue, and never after was the writer again caught in the same way, and this led to the observation that, with very few exceptions English was spoken and understood in the pharmacies of Europe.

The articles bought were often of very good quality, and never of bad quality, and were uniformly dispensed quickly and neatly, but never elegantly.

The general conclusions reached by these observations were, that in the United States there is a class of physicians who, in ability, knowledge and skill in the application of their art, are not excelled by any similar class in Europe, but that in this country this class is so diluted and obscured by the much larger class with superior pretensions and inferior knowledge and skill, who keep themselves so prominently before the public, as to overshadow the better class and give a superficial appearance of inferiority to the profession as a whole.

By the uncontrolled multiplication of graduates of medicine here, the profession is overcrowded with indifferently educated men far beyond the demand or necessity for their services, and far beyond the proportionate number in any other nation. If this struggling surplusage and its influences be subtracted, the profession of medicine in this country is probably nowhere excelled.

The condition of pharmacy in the United States appears to be fairly parallel to that of medicine. In no country are there any better medical supplies than in this, and in none are these better managed and dispensed for use than in this. Indeed, with respect to both quality and management, there is a strong probability that there is a superiority here. But, there is certainly no country more abundantly supplied with bad drugs, nor with the ability and skill to put them in the place of good ones. In most European countries pharmacy is so controlled that it is not very easy to get bad medical supplies, while in this country, with pharmacy almost uncontrolled, it seems not very easy to get good ones. With good and bad material in equal abundance, the pharmaceutical ability and skill which constitutes good pharmacy in the one case makes very bad pharmacy in the other, and against this last the European control measurably protects European physicians and their patients. Here there is probably better pharmacy and more of it than there; but here there is an enormous amount of bad pharmacy to contrast with a very little there.—*An Ephemeris of Materia Medica, etc.*

REMOVAL OF THE UTERINE APPENDAGES AND THE LIVERPOOL HOSPITAL FOR WOMEN.

NCMedJ (O.S.) 19: 91-94, #2, February 1887

The question of the removal of the uterine appendages has a distinctly ethical as well as surgical aspect. The former is growing in importance, if we may judge by the increasing frequency with which this phase of the subject is discussed in medical literature, and by some distinctly practical results of a decidedly unpleasant character, which have occurred both in this country and Great Britain.

One of the secondary outcomes of this question has been engaging the attention of medical men in England the past year, in connection with the Liverpool Hospital for Women, and though the final stage may not have been reached, yet it may be of interest to briefly review the course of events thus far.

Dr. Francis Imlach, one of the surgeons to the Liverpool Hospital for Women, performed an operation for the removal of the uterine appendages in a case of intra-peritoneal hæmatocele. The patient recovered, but subsequently sued Dr. Imlach on the ground that the operation was unnecessary and performed without knowledge on her part of its nature. The case came to trial in August, 1886, and after the evidence on both sides was in, the jury, without leaving their seats, returned a verdict for the defendant.

In February of the same year, whether, which is probable, because the fact of this suit having been brought was known, or for the reason alleged that the number of operations included under the term abdominal section, had risen from eighty-six in 1884, to one hundred and sixty-six in 1885, and such increase was considered "remarkable," a committee was appointed by the Liverpool Medical Institution to inquire into the matter.

The resolution under which the committee was appointed stated that, "In view of the large and increasing number of cases of abdominal section in the Hospital for Women in this city, as shown by the Annual Medical Report for the years 1884–'85, this meeting is of opinion that a special committee be appointed for the purpose of investigating the grave question of practice and ethics involved in the performance of these operations, and to report at a future meeting." The committee was composed of eight surgeons and physicians connected with the large hospitals of Liverpool.

Just what relation the Institution holds to the medical profession in Liverpool, and with what authority such an investigation into the methods of a hospital could be prosecuted, we have no means of knowing. It is said that the "medical staff of the Hospital for Women present took an active part in the discussion and voted for the proposed committee," and that "at a subsequent period it was deemed right that the medical officers of the hospital should each, if they wished, send a representative to the committee to watch their interests." Suffice it to say the committee did make a thorough investigation, the results of which are embodied in a report published in the *Lancet* of December 11, 1886.

The plan of investigation included the reports of the medical officers of the hospital, supplemented by notes of the condition of the patients as ascertained by subsequent visits ; information received from medical practitioners in and around Liverpool, who had patients under their care either before or after operation at the hospital ; personal visitation of some forty or fifty patients by members of the committee ; certain specimens of ovaries and Fallopian tubes removed by Dr. Imlach ; the appointment of a sub-committee to personally examine the hospital records and question the lady-superintendent and nurses.

As a result of their investigations they found that there had been one hundred and six abdominal sections performed for the removal of the uterine appendages. Ovariotomy, exploratory incision and oöphoraphy, which comprised the rest of the one hundred and sixty-six, did not call for any special comment.

With regard to the first series, the committee arrived at the following results : (1) Danger to life. The mortality was eight or nine per cent., and the committee sagely concludes that if the operations were done for grave disease, and the patients were generally cured, such a mortality was not high, but if done for trivial affections, and the patients were generally not benefited, it was. (2) Sterility. As this is a necessary result of the operation, it should be clearly explained to the patient and her relatives. (3) Loss of sexual feeling and of physical energy. The committee found a comparatively small number who complained of these effects. (4) Hernia. Out of one hundred and sixty-six cases, fifteen were found in which hernia resulted. (5) Actual results to the patients. The committee found distinct and permanent benefit in about half the cases, slight or temporary benefit in nearly as many, and positive injury claimed in a few.

In view of the above facts, the committee were of the opinion "that at the Hospital for Women sufficient care and discrimination had not been exercised in the selection of cases for operation, and that in many instances the gravity of the symptoms was not such as to have justified an abdominal section of any kind." They recommended consultations before any abdominal operation, full information to patients of the nature and consequences of the operation, and longer retention in the hospital after operation.

Dr. Imlach, whose unfortunate lawsuit was apparently the "*fons et origo*" of this investigation, and against whose methods the criticisms of the committee were mainly directed, inasmuch as he performed eighty-five out of the one hundred and six operations, has sent a letter of protest to the *Lancet,* which is published with the report of the committee, and it is only fair to briefly outline the points he makes. He claims that the committee was not composed of men who could fairly be supposed to be unprejudiced; that he wished to be represented on the committee by a pathologist, but the one he selected declined, as he did not approve of the method of appointment of the committee; that the disease for which he performed the operation in the case of the patient who subsequently sued him, though held by the committee not to be one for which abdominal section should be performed, is regarded by most leading gynæcologists as liable to develop grave or fatal symptoms, and to be one for which laparotomy is frequently indicated; that the question of the justifiability of the operation depends upon the severity and persistence of symptoms and the pathological changes found in the organs; and that the committee failed to mention that he had "treated sixty-seven cases of inflammatory disease sent in with a view to operation, solely by rest and medical means." There are many minor points which Dr. Imlach alludes to, which seem to indicate pretty clearly that the investigation, though apparently thorough, was not conducted in a spirit of perfect fairness towards the surgeons of the hospital.

What is the general impression conveyed by this whole transaction? What good has it accomplished or can it accomplish? It may serve, perhaps, to emphasize more strongly certain secondary considerations in connection with operations of this character, such as the importance of not operating until other means have been tried and failed, the advisability of the patient and her friends thoroughly understanding the nature and results of the proposed operation, and the help in estimating the value of the operation by keeping the patient under observation for sometime after it. But when we consider the class of patients who present themselves at large public hospitals with this class of affections, women for the most part ignorant, many of them degraded, often with a distinctly nervous element predominating, it seems absurd to suppose that any investigation which depends largely upon the statements of such women for its facts, should be considered a suitable way of arriving at just conclusions.

Had the committee been able to question and examine these women before operation, and to see the specimens when removed, then their decisions would have been entitled to respect. The first they were of course unable to do, and the second they seem to have neglected in the cases which they might have examined, as no mention is made in their report of the pathological specimens laid before the committee by Dr. Imlach. In fact, this wise body of men seem to have expressly acknowledged the weakness of their position in this clause of their report: "The committee regret that from a scientific point of view they are unable to give any very definite assistance to the medical profession in judging of the class of cases appropriate for the operation under consideration, in advance of what is already known and admired," and yet they condemn these surgeons for having in many cases operated unjustifiably. Candid men must judge how fair such condemnation is. Our verdict would unhesitatingly be, "Not Proven."

While it is true, as has been intimated above, that the attending surgeon at a woman's hospital cannot be too circumspect in advising any radical uterine operation, without making sure that the patient is fully informed as to the actual nature and potential consequences of the operation advised, it is also true that committees of investigation, and other persons who may be placed in the position of critics, cannot exercise too much care against making any report which may increase the grave perils to which the practicing gynæcologist is already exposed from designing women.—*Boston Medical and Surgical Journal.*

A WORD OR TWO ON WARM CLOTHING.

At a time when there is "a nipping and an eager ear" the question how to keep warm presents itself in many urgent phases. In the matter of properly clothing the body, or, in other words, of conserving animal heat, the physician is consulted as much as upon any point within the range of hygienic requirements.

There is no doubt that wool stands at the head of the materials out of which clothing is made. Its virtues depend upon its being a poor conductor of heat; its porosity, allowing the passage of the exhalations from the skin; its power of absorbing moisture and giving it up slowly and gradually.

As a non-conductor of heat, woollen materials have been shown by exact experiments to rank first, although with them must be placed certain furs and the down of birds. After these come silk and cotton, while linen ranks last.

The porosity of flannel, as compared with that of other materials has also been determined by experiments showing the pressure required to force air through them. Flannel is nearly twice as porous as linen, more than twice as porous as silk, and seventy times as porous as glove-leather. Both flannel and silk take up water slowly and give it up again slowly. Owing to the openness of the texture and the hydroscopic power of the fibre, a considerable amount of water can be held in its meshes; more than twice as much, in fact, as can be taken up by cotton or linen. The slow evaporation of water from flannel, as compared with linen, is well known and often observed. Rags of linen, not flannel, dipped in water, are used to cool the fevered brow or allay an inflammation. Linen imbibes moisture most quickly, cotton next, and wool last.

Woollen clothing is universally used by athletes during exercise. This is a good plan if, as is the rule, thin flannel is used. In very hot weather linen or cotton, however, is better during the exercise. After exercise the body continues to perspire, and the perspiration, becoming vaporized, cools and may chill the surface. If dry flannel is not put on, however, the vapor is condensed in its meshes, the latent heat restored and an agreeable feeling of warmth results.

Woollen clothing is not so good as leather and fur for those exposed to cold winds. Our country readers in the North know well the comfort, and even necessity, of buckskin jackets and fur coats.

Woollen clothing promotes the activity of the skin; and it is much revered by the rheumatic, with good reason. Redness in flannel is supposed to give it additional virtues.

Red flannel is generally an irritating material, owing to its coarseness and sometimes to the dye. This more or less peppery quality furnishes the sole basis for its popularity.

The color of a fabric affect its properties as a material for clothing in two ways: the absorption of heat and of odors. Cloths absorb heat and odors in the following order: black stands first, then come blue, red, green, yellow, white.

The wearing of flannel is believed by some to lessen the risks of malaria. That it does so, except in a very indirect way, is improbable, though Parkes is inclined to give some credence to Andrew Combe's opinion in favor of this view.

Many persons cannot wear pure wool next to the skin, owing to its slightly irritating properties. For these silk is perhaps a tolerably good, though a most expensive, substitute. A combination of cotton with the wool can be all but too easily found, which sensitive skins can easily endure.—*Medical Record.*

THE COMING TREATMENT FOR PHTHISIS.

The treatment of phthisis by medicated gaseous enemata, devised by Dr. Bergeon, of Lyons, has recently received the attention and measured approbation of Dr. J. Henry Bennett, who gives a full account of it in the *British Medical Journal* of December 18, 1886. We have already explained the general principles of Bergeon's method. He found that carbonic acid gas introduced into the system by the veins of the intestines was harmless, painless and without special medical effect; in other words, it was a practically inert gas. He then medicated this with sulphuretted hydrogen, and the medicated gas was injected per rectum. The sulphurous gas was eliminated by the lungs, causing remarkably beneficial effects.

Dr. Bennett says: "Dr. Bergeon claims marvellous therapeutic effects for this medication. He says that he has been applying it for the last two years to all the cases of chronic pulmonary and throat disease that have come under his observation; indeed, in more than two hundred cases, although the experiments were made at Lyons, where the climate is bad, the results have been successful to a degree that has surprised and astonished him. He says that, in early phthisis, even in acute general phthisis, a form of the disease nearly always rapidly fatal, in two or three weeks there is generally an arrest, and in a few months a cure. Even in advanced, incurable phthisis, great amelioration is obtained. The pulse is lowered, the temperature falls, the night-sweats cease, the appetite returns, the expectoration rapidly diminishes, losing its purulent character, and the cough becomes less harassing and frequent. The amelioration, he says, is also rapidly obtained in advanced laryngeal phthisis, when all local or constitutional treatment has failed to give ease, or to arrest the ulcerative process. Asthmatic attacks are relieved with more certainty than by any other means, including the hypodermatic injection of morphine.

"These are very marvellous statements; but, coming from a scientific man of mature age, occupying a prominent orthodox position in a great medical centre (Lyons), and brought forward as the result of several years of trial and observation, they must command attention and counter-trial. Certainly, to pass from eight to ten or twelve litres of medicated gases through the intimate structure of the lungs several times in the twenty-four hours, is a tangible reality, and a new departure in thoracic therapeutics. The entire structure of the lung is certainly reached; both the healthy and the morbid tissues are thoroughly searched out and permeated."

Bergeon has communicated his views to the Paris Académie de Médecine, and his method has been tried "with unexpectedly favorable results" in the hospitals of Paris and at Lyons.

The injections are made twice daily. At first only about one litre of gas is used; and this amount is steadily increased. Great attention to details is needed; the sulphur must be pure, and no atmospheric air must be admitted.

Dr. Bergeon's method is novel, and with so many strong endorsements it plainly deserves an extended trial. It is not one that can be widely used at present, owing to the care and time needed for its application.—*Medical Record.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

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THE REPORTS FROM THE SECTIONS IN THE STATE MEDICAL SOCIETY.

We are glad to know from Dr. Bahnson that he has appointed Dr. W. P. Beall, of Greensboro, as leader of debate for the coming session of the Society. The plan which the appointment puts into motion was the wise suggestion of Dr. Graham at the New Berne meeting in 1886. We are not yet informed of the subject which Dr. Beale will present to the meeting, but that it will interest the Society and be worthy of honest discussion, we feel sure. The whole system of reports from the sections seems to us to need careful revision. The purpose for which these sections were organized was to provide the meetings of the Society with a digest of the year's work in the different departments of medicine, and through these sections to offer to the members generally an opportunity to bring in essays or clinical histories as contributions to the sections, as they might choose. The result to be gained was systematizing of the literary work of the session, and the opening these reports would make for general discussion under the stimulus of the reports. The second of these objects has in no case been obtained, and the first has been defeated too often, because the chairmen have frequently strayed off from the path indicated, drawing too largely upon standard text-books which are not so recent as to be possessed of novelty and interleaving their work with much personal matter, to the exclusion of well studied abstracts of the contributions that have marked the world's work in medicine, so abundantly recorded in the periodical medical literature. The consequence has been, as we have intimated, that no discussion has ensued upon the reading of these reports, and they have been formally referred to the Publication Committee with thanks. We feel sure that, along with the resolution of thanks and reference, has often gone a feeling that the authors of the reports have not come up to the full measure of their own capacity or to purposes for which these sections were organized. Such, we are told, was the feeling of the originator of this plan, and his ideas in instituting it was as we have indicated.

We suppose that it was to cure these discursive reports that the suggestions for regulating debate were made by our last President, Dr. Graham, in his message. While we do not pretend to sit in judgment upon the reports from the sections, the refusal of the Committee on Publication to issue all of the papers sent in to them must be construed into a grave condemnation of the system. Of late years the authors of these reports have been led into the errors we have mentioned by the example of their predecessors and encouraged by the reception which has been accorded chairmen of sections of previous years. We believe there is good in the system, but a new mode of reporting for these departments must be introduced and adhered to—one more in accordance with methods of the American Medical Association—after which our system was modeled.

There will be two vacancies in the Board of Health to be filled by the Society at the coming meeting by the expiration of the terms of Dr. R. L. Payne, Sr., and Dr. John McDonald.

Our Advertisers.—As has been our custom for several years past, we offer our services in distributing to the members of the North Carolina Medical Society, at the regular annual meeting, any circulars or samples sent us for that purpose by advertisers in this journal. Packages must be directed to the North Carolina Medical Journal, Charlotte, N. C., which place they should reach by the 13th of April next, the first day of the session. There will be, probably, 250 members present.

Dr. Bahnson writes us that it is probable that Drs. D. Hayes Agnew, of Philadelphia; Robert Battey and Henry F. Campbell, of Georgia, and Hunter C. Maguire, of Virginia, will visit our State and be present in Charlotte during the session of the Society, and to these we hope in our next issue to add the names of Drs. W. T. Howard, of Baltimore, and O. F. Manson, of Richmond. They will all be welcome visitors, and will add great interest and value to the discussions which will take place during the session.

Registration of Members at the Meetings of the Society.—The incessant calls upon the time of the Secretary during the session of the Society makes it quite impossible for him to be accurate in making up the roster of members present at each yearly meeting. We hope, therefore, that at Charlotte and thereafter, if the plan succeeds, a book will be opened in which each member present shall write his name and postoffice. This plan will do away with all cause of complaint that members who were present at meetings have not been so reported in the printed "Transactions."

REVIEWS AND BOOK NOTICES.

A MANUAL OF OPERATIVE SURGERY. By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery Bellevue Hospital Medical College, etc., etc. D. Appleton & Co.

Dr. Bryant has certainly justified in this book the frequent demand for a publication of the lectures which he has delivered as a teacher of operative surgery. He has discarded, very wisely, all allusions to methods of surgical practice which are doubtful or of unfixed value, and the book is the more reliable for this and from the fact that personal experience of the author is generally his safe guide in the choice of procedures which he recommends. This does not, however, prevent him from fairly presenting all other modes to which he can with safety give his commendation.

A chapter devoted to "General Considerations," in which the outline of the work of a surgeon is set forth, is a very useful beginning, and to the student will serve as a safe guide, and to the older surgeons be a good remembrancer.

The control of hemorrhage is discussed in a full chapter, in which the author says that catgut is the equal in security to any form of ligature, no matter what the size of the vessel to be tied may be. We had not so read the experience of the masters in the art, but we confess that, after reading all of Dr. Bryant's book, and noting his carefulness of statement, we are disposed to accept his dictum as being worthy of great consideration.

His belief in the control exercised over wounds by the adoption of the most rigid antiseptic methods is expressed in no doubtful words, and he everywhere declares this one of the necessities for the successful treatment of wounds.

The directions for the ligature of arteries are sufficiently full to be all that is desired, and the notes he sets out are clear and distinct. The chapter on "Operations on the Veins and Capillaries," which gives the directions for treatment of one of the larger veins cut in an operation, which should be ligated at once at each end, contains, likewise, a study of the methods advisable for the cure of hemorrhoids, in which the preference is expressed for ligature of the vessel over the operation of crushing, or excising. He does not think well of the injection of these hemorrhoidal masses with carbolic acid. This latter plan has such enthusiastic advocates and has been so easily successful, that we are disposed to attach more importance to its value than does our author. Cerebral localization being a recognized factor in diagnosis of injuries of head, receives full attention from the author. The operative steps in the excision, stretching and division of nerve is amply treated, and suturing the divided nerves is insisted on if possible, with a promise of good results. In the treatment of scalp injuries, and especially in the operation of trephining of the skull, the most careful appreciation of antiseptic treatment is insisted on.

There are several chapters devoted to the exposition of "Operations on "Tendons, Fasciæ, Muscles and Bones," and they are clear and full, including all the best methods of practice in this department. This division of the work takes up deformities and the treatment of plastic surgery.

We find that Dr. Bryant does not think it good practice to inject the sac for the cure of hydrocele, but prefers to open the sac and cut away any excess that may appear after emptying out the fluid. Of late, we have seen such good results follow the use of injections of carbolic acid slightly diluted with glycerine into the sac, after drawing off the fluid, that we must express our surprise at the opinion of so competent a surgeon as Dr. Bryant.

We wish it was within the limit of this review to go over the contents of this Manual more fully. The text and illustrations are both most excellent, and the copiousness and precision of the latter add much to the value of the book to the surgeon and student. Of these illustrations, many are entirely new, being original with the author, and others he has taken from standard works. The book will enhance the reputation of its author and be a valuable addition to the surgical volumes in the libraries of medical men, as well as a safe guide to the student who is in search of a complete manual of such surgical operations as are not included in the special works on gynæcology and diseases of the eye and ear need such interference.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By WM. A. HAMMOND, M.D. Eighth Edition. D. Appleton & Co.

This work has been before the profession so long and has appeared in each edition with all those improvements and new matter added that so rapidly accumulate in the study of nervous diseases, that an extended notice is unnecessary. Following in issue the last volume of "Pepper's System of Medicine," this last edition of Dr. Hammond's work has its merits more clearly set forth by comparison with that fine exposition of the same subjects, and parallel readings in the two works will be an instructive study. We notice that Dr. Hammond added a new section to "Certain Obscure Diseases of the Nervous System," and under this heading has introduced a chapter on Tetany, an obscure nervous disease, which may be characterized by extreme flexions and twistings of the extremities and the affected muscles are the seat of acute pain. In appearance, it seems closely akin to hysteria, and Dr. Hammond thinks that many cases of tetany have been mistaken for hysteria or genuine tetanus. The treatment is limited to the administration of the bromides in large doses, and they seem to be the only remedy. Its prompt effect, as well as the unhappy effects of strychnine or other agents likely to produce increased flow of blood to spinal cord, seem to point to the pathology of the disease as essentially a congestion of the spinal cord. To this is added a chapter on Thomsen's Disease, and another on Miryachit and kindred affections. This last chapter discusses the nervous disease which manifests itself in the uncontrollable imitation by the sufferer of any act or sound made in his presence, and the queer expression of this malady has given rise to much discussion.

The many readers and students of this standard work find this last edition amended and corrected by additions to the rest of the book in keeping with the best knowledge of the period, and embodying much of the original work of the author.

OUTLINES OF THE PATHOLOGY AND TREATMENT OF SYPHILIS AND ALLIED VENEREAL DISEASES. By HERMAN VON ZEISSL, M.D. Revised by MAXIMILIAN VON ZEISSL, M.D. Translated by H. RAPHAEL, M.D. D. Appleton & Co., New York.

The reputation of Von Zeissl as a venerialist will commend this book to our readers, as his position among authors on the class of diseases known as venereal has justly been placed among the foremost of these writers. Moreover, he has been known as an author of very positive opinions in regard to the nature and treatment of these frequent and troublesome maladies, and the authority of his utterances has been the more respected because of his unusually large experience.

Of gonorrhœa, or venereal catarrh, Von Zeissl says that it is not possessed of any special microbe to which may be referred its infecting power, nor does the presence of a purulent discharge alone account for the peculiar features of the disease, for, say the authors, they have seen numerous instances in which men, who were troubled only with the "prodromal stage of the disease, i. e., the prickling sensation at the meatus urinarius, where not a trace of pus could be found in the urethral discharge, infected their wives and mistresses." But they claim that the morbific potency of a gonorrhœal infection resides "in a specific catalytic power of the secretion, i. e., in a contagium which adheres to the epithelial as well as to the pus cells, and which we are not able to isolate any more than any other kind of contagium." They set aside the gonococcus of Neisser, with the declaration that it has not been satisfactorily demonstrated. So that, after discarding the theory of the genetic factor being a microbe or due to the presence of pus in the infecting secretion, the authors fill up the want by substituting for either or both of these "a specific catalytic power of the secretion." Von Zeissl does not give any commendation to the practice of abortive treatment, having no faith in its efficacy, and being distrustful of its safety.

Local treatment by means of injection is preferred to internal medication, but the claim is made that if rest and a strict dietetic regimen is observed, a gonorrhœa will get well any way in four or six weeks. There is a practical method all through the measures set out for treatment of this disease which will find ready assent, we believe, among the readers of the work.

Although the chancroidal poison is set aside as specific, it is not put in the same class of contagious poisons as the chancral. Protection of the sore from interference with the healing process and cleanliness of the diseased portion is advised in place of cauterants and the like medications.

Following this, in natural order, comes the consideration of syphilis and its lesions, which occupies more than half of the book. Here again Von Zeissl declares his disbelief in the claimed discovery of a micro-organism which will stand for the specific poison of the disease. The treatment is at first expectant and local, and if, after a reasonable period, the local manifestations do not disappear, or if there should be symptoms which have not disappeared at the end of eight weeks, preparations of iodine should be given and another period of observation occupying eight weeks be covered, when, if these late manifestations have not gone, then "the treatment with mercury may be resorted to without any fear concerning the future course of the disease." The treatment by inunction baths, etc., are all discussed, and the exposition of the matter is full and complete. The work in the book is that of the elder Von Zeissl, reproduced and annotated by his son, and the translation by Dr. Raphael is a most excellent one. The opportunities for a study of the venereal diseases which the authors of this work had, were so unusual that these matured opinions are worthy of the more devoted attention.

Index Catalogue of the Library of the Surgeon General's Office, U. S. Army. Vol. VII. Insignarès. Leghorn. Washington, D. C.

Nc med J (o.s.) 19: 105, #2, Feb. 1887.

"This volume," says Dr. Billings, the able compiler of the catalogue, "includes 14,688 autho-titles, from 5,987 volumes and 12,372 pamphlets. It also includes 6,731 subject-titles from books and pamphlets, and 34,903 titles of articles from periodicals." This will give some idea of the vastness of the work which Dr. Billings and his coadjutors are accomplishing. The subject of "Intestines" occupies 60 pages in the volume and "Jaw" 40 pages. "Knee and Knee-Joint" together occupies 38 pages, and "Labor" 150 pages. The references include all that is necessary for an easy search for authorities, and are more complete than such a work has ever been before. To this volume is also added an "Alphabetical List of Abbreviations of Titles of Medical Periodicals Employed in the Index-Catalogue, with Explanations."

The South-Western Medical Gazette.

We are pleased to welcome to our table the first two numbers of this journal. It is neatly gotten up in double-column, is printed on nice paper, in clean type and is easy to read. It is full of good and interesting matter, and we like it, and bespeak for it marked and rapid success. Edited by M. E. Coomes, A.M., M.D., and J. B. Marvin, B.S., M.D. The publishers are The Bradley & Gilbert Company, Louisville, Ky., and the subscription price is $1.00 a year.

CORRESPONDENCE.

Messrs. Editors North Carolina Medical Journal:

Gentlemen :—The following subjects will be submitted to the State Medical Society for discussion at the Charlotte meeting :

1. The Rational Treatment of Ileo-Colitis of Early Childhood.

2. Our Autumnal Fever : Its Nature and Treatment.

3. Are the Dangers of High Temperature in Acute Diseases Overestimated ?

The discussion of one or more of these subjects will depend upon the length of time allowed by the Society for debate.

Yours truly,

W. P. Beall, Leader of Debate.

Messrs. Editors North Carolina Medical Journal:

In my article on the " Hæmostatic Properties of Ambrosia Artimisiafolia," read before the North Carolina Medical Society, at the Durham meeting, I stated that I was satisfied that the remedy would prove valuable in the treatment of hæmorrhagic malarial fever. I had no opportunity of testing this until last fall. On the 23d of October I was called to see Mrs. J——, a slightly made, light complected, married woman, aged about 30. Had been having intermittent fever during the latter part of the summer. Found her with high fever, temperature 105°, and very much excited, having just passed from her bladder a chamber-pot nearly half full of what appeared to be pure blood. I at once made a strong infusion of ragweed and gave her a teaspoonful every half hour ; gave also the following : Sulp. quininæ grs. 24 ; calomel grs. vi. ; ext. hyoscyami grs. iij. ; make 3 powders. S. One every 6 hours. At my evening visit found her quiet, clear of fever, and on making water it was clear and of a light color. I called again very early the next morning. She had passed quite a quantity of bloody urine and had fever following a chill. I again gave the ragweed and put her on the following : Chloride soda ʒj. ; make 12 powders. S. One every

2 hours in water. She had no more chills and no more bloody urine. She stated to me that she had once before been treated by Dr. Porter, of Rocky Point, for hæmorrhagic malarial fever.

I would ask members of the profession who have opportunity of treating this disease, to try this remedy, and report results. I have a small quantity, which I would gladly divide with any one who would try it. Very truly, etc.,

Thos. Hill, Goldsboro, N. C.

[If Dr. Hill continues his experiments in the treatment of malarial hæmaturia with the ragweed, and wishes his reports to bear close and favorable scrutiny, they must be extended over a series of cases. These reports should show that the ragweed has been accorded, and justly held, the chief place in the remedies given for the cure of this disease, and has a proven power over those agents now accepted as valuable by physicians whose experience has been large, but who are anxiously seeking for a more certain source of control in this much dreaded malady. We shall be glad to have a report of these cases if the doctor should continue his studies in this direction.—Eds.]

A CASE OF PROTRACTED AND DIFFICULT FIRST STAGE OF LABOR.

Messrs. Editors North Carolina Medical Journal:

On the 26th day of January, about midday, I was called to see Mrs. N., whom the messenger said was in labor. On my arrival the patient, who had given birth to her first child two years previously, expressed her belief that she was in labor, and gave me the following history: About a week prior to this date, while she was walking across the yard, she slipped and fell, which gave her a severe shock. She experienced considerable pain at this time in the lower abdominal region, but lay down and the pain soon subsided. On Saturday night, the 22d January, the pains returned, and as her term of pregnancy had about expired, and believing she was in labor, she sent for the neighborhood midwife early Sunday morning. The midwife came and pronounced her in labor. She suffered severe and almost continued pains up to the time I was called, which was four days subsequent to the beginning of her labor. On Tuesday morning, the 25th ult., the midwife abandoned her, saying: "The child is nearly into the world."

On placing one hand on the abdomen, and introducing a finger of the other into the vagina, I discovered there were distinct contractions of the uterus at regular intervals. The head was presenting. The os was dilated about the size of quarter of a dollar, and was very hot, thin and unyielding. There was a narrow band around the os as hard as cartilage, and, when a pain came on, the circular fibers contracted furiously, so to speak, but this gristle-like band, which became more dense and unyielding, could be distinctly felt while the womb was contracting. I remained several hours, and, as the dilatation did not progress, I gave the woman 20 grains chloral, hoping it would relieve the spasm of the circular fibers, and left to make another visit in the vicinity. I returned at 10 o'clock at night, and found the womb quiescent, the woman expressing herself as feeling comfortable, having suffered very little pain since my departure. I now gave her an opiate, thinking it would quiet the nervous system and insure some rest, for she was becoming nervous and prostrated from protracted suffering, and hoping the womb, with a few hours' rest, would be better able to relieve itself of its burden, returned home with instructions to call me when the womb resumed action.

On the evening of the 27th I was recalled, and found the womb had recommenced its work, but the os was scarcely any more dilated than at my first visit. I prescribed a warm douche to the cervix, and then anointed it with a 5 per cent. ointment of cocaine, but this did not seem to modify the os or assuage the pain. I now administered chloroform, and the mouth began to dilate almost immediately thereafter, which went on rapidly to completion. The second stage was short, and the child, which was well developed, was quickly delivered, and I think the woman had about completed her full term. After the delivery of the placenta, examination showed the os in about the usual condition after labor. Whether the oblique and longitudinal muscular fibers did not act in concert, and therefore could not overcome the circular fibers, or whether the abnormal hardness and spasm of the circular fibers were too great for the combined powers of the expulsive muscles to overcome, is hard to determine. It is obvious the chloroform had the desired effect.

I do not submit this with any claim of skillful treatment, but in view of its clinical interest.

G. A. Ramsaur, M.D., China Grove, N. C.

CURRENT LITERATURE.

RATS AS AN AGENT IN THE INTRODUCTION OF TRICHINA INTO SWINE.

To rats belong the credit of introducing trichina first into swine, and then, through the fresh pork and bacon, into human bodies.

In the year 1857 I shot a female rat that came out of my father's corn-crib. The ball passed through the lungs, tearing her body wide open ; and, on an examination of the lungs, scarcely a sound spot could be found that was not filled with tubercles, and these with trichniæ in all stages of growth, from inception to maturity. In fact, the entire body, especially the muscles, was a living storehouse of the offensive creatures. Imagine the effect of this in the flesh of a hog that might have eaten it if left above ground. In 1865, on account of some grain-cribs near my dwelling, the house became infested with rats. Seven of these were shot one evening, and incautiously thrown into my hog-pen. A brood-sow ate them all. She was fat when she ate them : in six weeks she was so poor that her bones could well-nigh have been counted through the skin. Of course she died ; but her carcass, after its examination, was carefully buried. All parts of the body, especially the intestines, muscles and lungs, were literally filled with trichinæ. Three cats in succession also succumbed to trichinosis after eating freely of the rats caught under and about the house. The examination of one of these also revealed their presence in the cats' lungs and bodies as the cause of their fatal disorder. A neighbor who killed a hog he could not fatten, brought over a speckled piece of lung and some of the flesh from near the back-bone, as well as a piece of the ham. All were found to be alive with millions of trichinæ ; they were literally innumerable. In addition to this, the lungs were full of the *Filaria bronchialiœ* which also infests the human body. From these facts we derive the conclusion that rats and cats should be kept away from hogs intended for pork. It is certainly criminal, in the light and intelligence of this day, to kill rats and mice, and leave their bodies above ground unburned or unburied.

In 1856 I was eating at a farmer's table. He and his wife had each taken a piece of pork from the plate; in cutting through it, I heard a grating of the knife, as if cutting through a raw turnip. This to me was the sign of measly pork. Knowing that the year before he had burned sixty so-called cholera hogs on his farm, I declined to eat any of the pork. I expressed my fears to him and his wife. They laughed at my foolish caution, as they then thought it to be; but they were almost immediately after taken sick, and for years thereafter were doctoring their livers. His hogs had been given free range to an old straw-pile of half-rotted straw—a regular rat-burrow. I told him, after burning the sixty hogs that died of cholera (!), to shut up his fence, and burn his straw, which, of course, stopped the disease. The hog he had killed was one that had recovered from cholera, as he supposed, but which I knew had *Trichina spiralis* in the flesh. When the straw was dry the germs were easily conveyed by the nose to the lungs, or more probably to the stomach.—*Popular Science News.*

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PRECAUTIONS RENDERING THE OPENING OF THE ABDOMEN SAFE.

Dr. R. S. Sutton (*Jour. Amer. Med. Asso.*, Jan. 8, 1887) thinks that the abdomen may be safely opened if the following precautions be observed:

1. Have the patient clean from head to foot, and the surface of the abdomen especially clean, made so by soap and water and a brush. Surround the parts with clean towels fresh from the hot iron.

2. Have your hands and forearms scrupulously cleansed with soap and water and turpentine.

3. Have your instruments clean and immersed in hot water.

4. Thoroughly etherize your patient.

5. Make an incision two inches long; before opening the peritoneum secure every bleeding vessel. Pass in two fingers and make search.

6. If you have failed to gain the desired information withdraw your fingers, pass in a sponge, locate it directly under, below and above the wound, and enlarge the latter with a clean cut over the sponge, to a length sufficient to let in your hand. Secure all bleeding vessels,

withdraw the sponge, and pass in the hand and complete the search. Through such a wound much may also be seen. *Never make a longer cut than is necessary, and make a clean cut.*

7. Before closing the abdomen cleanse the cavity thoroughly, but be gentle in your use of the sponge; if you deem it necessary, pour in a pitcher of clean warm water and wash the cavity out. Gently sponge it dry. In closing the wound pass the sutures over a flat sponge laid beneath the wound.

8. Reject the use of carbolic acid or bichloride of mercury in your operations; they are useless *and a source of danger.* They may be useful in cleansing your hands prior to operating, *but they are to be kept out of the peritoneal sac.* Keith, Tait, Bantock, and others abroad have proved the worthlessness of carbolic acid, and I have for sometime been satisfied from experience that they are right.

9. Never permit any one but the operator to pass a hand into the cavity, unless his hand has been prepared by a careful cleansing with soap and water and brush, and with turpentine or a 1 to 2000 solution of bichloride of mercury. Even a 5 per cent. solution of carbolic acid is not reliable for this purpose.

10. In tying the sutures, dry the lips of the wound as you go along with a bit of iodoform gauze.

With the above precautions I have opened the abdomen many times, and I have yet to see a single wound so treated fail to unite by first intention.—*American Lancet.*

SEVERED DIGITS.

During the last few months the *Journal* has contained several communications in regard to the reunion of portions of fingers to the stump from which they had been completely severed. Five different physicians have recorded ten cases which have fallen under their own observation; eight in the reporter's practice and two in the practice of the reporter's father. Of these ten cases four are reported as perfect; three cases were successful, but there was more or less impairment of sensation; one lost half the last phalanx by sloughing; two only can be considered as failures, both of them united, but one afterwards separated, the other shrivelled and was practically worthless. We have also quoted during the same time a case from a Russian surgeon in which a portion of a thumb became reunited with perfect sensation, but limited mobility, and this week's *Journal* contains another equally well-authenticated case occurring in domestic practice.

That as large a number of cases should be reported in so short a time is quite surprising. It establishes, however, the fact that reunion is possible: a fact in opposition to the former belief of the majority of the profession. The cases reported are, with two exceptions, all successful; how great a proportion they would bear to the utter failures it is impossible to guess, but twelve cases in which some sort of adhesion has taken place, are enough to warrant much more careful attempts to restore small portions of the body which have been accidentally amputated.

The fingers most suitable for preservation, or those most likely to reward the attempt, would seem to be those which have been removed by a clean cut, so that suppuration between the two portions may be avoided. The time which may elapse between the accident and the successful replacement of the separated portion would seem to be very long. In Dr. Nivison's case three or four hours had elapsed during a portion of which time the fingers had been covered by snow. In these successful cases great care was evidently taken to secure perfect cleanliness of the cut and careful apposition of the fragments, together with such other care as seemed likely in the eyes of the surgeon to secure union without suppuration.

The literature of the subject is evidently not very large; still a very considerable number of reported cases are accessible, of fingers and other portions of the body, which have reunited after separation. An interesting case, for the fulness of detail with which it is reported, is that of Dr. Goschler, in the *Wiener Medizinisch Wochenschrift* for 1868. A man of sixty chopped off nearly the whole of the last phalanx of the ring finger, preserved the fragment for three-quarters of an hour in water at a temperature of 11° Rèaumur. In thirty-six hours there was evidently agglutination, during the third, fourth and fifth days the extremity was cold, but adherent and evidently sensitive. On the ninth day the reunion of the soft parts was assured, but there was no union of the bony fragments. At the end of a month recovery was complete.—*Boston Medical and Surgical Journal.*

EXTIRPATION OF RECTUM WITHOUT DESTROYING THE SPHINCTER ANI MUSCLE.

The operation of extirpation of the rectum, or a portion thereof, for carcinomatous disease, or for stricture from other growths, has been given an impetus by the work and writings of Volkmann, in Germany, who has been followed by Drs. H. O. Walker, A. Vander Veer, Wm. H. Van Buren, and others, in this country, and chiefly by Mr. Harrison Cripps, in England. The operation, as generally performed, includes the extirpation of the sphincter, and to that extent causes great inconvenience to the patient.

The first thing to be done is to thoroughly dilate the rectum—dilate until the sphincter's muscular fibres give way and part like the fibres of a green stick when fractured. When this is properly done, the bowel can be turned down, like rolling back the cuff of a coat sleeve, and a goodly part of the mass brought external to the body, permitting easy manipulation. To any one who has not tried dilation to that extent, the operation may look dangerous and liable to cause lasting paralysis of the muscles; but I will state that for twelve years I have been practicing it in all cases of hemorrhoids, fissure of anus, and fistula, and find that the paralysis only lasts for a few days, just about long enough to permit free drainage and the passage of fæces without pain or irritation. After the dilation the rectum is to be held open by assistants with stout wire loops bent into the shape of Sims' specula.

After the operation, it is well to evenly pack the wounded surface with something that will prevent hemorrhage by giving even, steady support. Use the folds of a roller bandage made of cheese-cloth and thoroughly soaked in glycerine ; this should be packed, as it is unrolled, around a rubber catheter passed well up the bowel ; the end hanging out at the anus permits its ready removal. The catheter should not be omitted, as it permits the free passage of gases as they are generated.

May 24th, I was called by Dr. A. L. Fox-Rooney to see Mrs. T. P., a lady of fine physique, aged forty-three, who had been suffering from what she supposed to be hemorrhoids for over a year. Upon examination a nodulated, warty-like mass was found, one inch from the anus, occupying about three-fourths of the calibre of the rectum, posteriorly and laterally. This had been diagnosed by the doctor to be epithelioma, in which I agreed with him, and advised extirpation. The next day the operation was performed, with the assistance of Drs. A. L. Fox-Rooney and Michael Rooney. The sphincters were first fully dilated and the mass removed as described above, with the galvano-cautery. There was considerable hæmorrhage, which was stopped with the cautery and a tampon applied. After the tampon was removed antiseptic injections were used of a warm saturated solution of chlorate of potassa, an agent I consider far superior to carbolic acid in operations upon the lower bowels, on account of its freedom from danger through absorption.

The microscope revealed the fact that the growth was epithelioma.

Under the careful and judicious treatment of Dr. Fox-Rooney the lady made a rapid recovery, and has had no indications of a return of the disease up to the present time, and I believe I may truly say that she is cured.—*Wm. A. Byrd, M.D., Pacific Record of Medicine and Pharmacy, San Francisco, January*, 1887.

OIL OF TURPENTINE IN CHRONIC CATARRHAL AFFECTIONS.

The attention of the profession is again called to the great remedial value of oil of turpentine in chronic affections of the lungs and bowels, this time by Dr. James B. Walker. Turpentine taken internally, he thinks, is capable of impressing almost the entire mucous surface of the body ; the exceptions are the uterus and vagina. Its first effects are upon the gastro-intestinal tracts before the absorption ; and being eliminated by the kidneys and lungs, it physiologically stimulates, and in pathological states, it may favorably modify these emunctories.

Limiting his observations to chronic catarrhal affections of the alimentary and pulmonary tracts, Dr. Walker finds that in hæmorrhages from these surfaces it possesses peculiar powers. This is especially true of the stomach, in ulcers of whose mucous coat it stands preëminent. In hæmorrhage of the intestines it is only a less valuable, and even here it ranks with any other styptic, and out-ranks most of them. It is applicable to hæmorrhages of the earlier, as well as the latter, stages of typhoid fever.

In sub-acute and chronic diarrhœas, this remedy, Dr. Walker says, is used to a much less extent than its efficacy deserves. He has seen diarrhœas checked by it, which had for months resisted bismuth, opium, nitrate of silver, sulphate of copper, the mineral acids and other astringents. In chronic diarrhœas he does not regard bismuth as so serviceable as in acute disease, its value, in fact, being in inverse proportion to the chronicity. Opium, in these cases, by lessening peristalsis, will arrest the diarrhœa, only to be followed, on its cessation, with an aggravation of the trouble. Lead and silver salts serve to arrest the catarrhal conditions and favor repair, but their influence must be slight in the small quantities which can be safely administered, and in view of the extensive surface upon which they must be distributed to be of any avail. Besides, in most of these cases, the diseased areas are more or less protected by a tenacious environment of mucus. Turpentine may be given in considerable quantities without fear of irritation, and its volatile nature enables it to diffuse itself throughout the bowel, into all the intestines thereof, and to permeate even the mucous environment of the diseased glands, and directly impress these structures.

The best time for giving turpentine is between meals, and at bedtime. If, however, when taken on an empty stomach, there is much regurgitation, it should be administered about an hour after a meal. The oil may be given in gelatine capsule, each capsule inclosing from five to ten drops. In this form the drug is not tasted unless regurgitated ; and if taken an hour after meals, will be so quickly passed into the intestines as to interfere little, if it all, with gastric digestion. Where the patient cannot swallow the capsules, the turpentine may be given in some sweetened emulsion, well flavored with anise or wintergreen.

In chronic bronchial affections, oil of turpentine has been found equally serviceable, and Dr. Walker states the proposition that in proportion to the chronicity of the bronchial catarrh, ammonia becomes of *less*, and turpentine of *more*, value. He has used the turpentine with signal success, not only in catarrhal conditions secondary to acute disease, but in primary catarrhal diseases which linger and threaten to involve the alveoli, or have already involved the alveoli, and become entitled to classification as incipient phthisis. In the dry forms the drug has not seemed desirable, but in the form characterized by decided or abundant expectoration its best effects are obtained.

The method of administration may be varied. Terebene is an exceedingly good preparation, which may be less offensive to some patients than the crude oil. Dose, five to ten drops, on sugar, in emulsion, or in capsules. Or the oil of turpentine may be given in the same way. In bronchial catarrh turpentine is sometimes given in the form of tar (by inhalations or by mouth), and the following is a favorite formula of Dr. Walker :

℞.—Ammon. chlorid	ʒ iss.
Vin. picis liquid	℥ ss.
Syr. tolu	f ℥ i.
Aquæ	f ℥ iiss.

M. Sig. A desert spoonful every four hours.

Bedford Brown, in the *Journal of the American Medical Association* (September 25th, 1886), advocates the use of turpentine in the management of the more painful affections of the alimentary canal in infants and young children. According to his experience, the oil of turpentine fills a place which no other remedies can fill. He believes the therapeutic effect of turpentine to be of multiform character. "It is eminently soothing to the irritated and inflamed mucous membrane, and seems to promptly arrest the rapid exfoliation of epithelium. It is antifermentative, deodorant and antiseptic." He lauds the beneficial action of turpentine in gastralgia, intestinal catarrh, enteritis and a number of unclassified painful affections of a functional kind. He prescribes turpentine according to the following formula :

℞.—Mucilag. acaciæ	f ʒ iss.
Sodæ bicarb	gr. x.
Chloroform	gtt. x.
Ol. terebinth	ʒ ss.

M. Sig. A teaspoonful every two or three hours to an infant of six months.

—*Boston Medical and Surgical Journal.*

TESTING FLUID EXTRACT OF ACONITE.—(Root.)

One-fifteenth of a minim of a well-made fluid ext. of Aconite Root, made from good root, and representing the root in the proportion of minim for grain, in a fluidrachm of water, will give a very faint, but still distinct aconite impression if held in the mouth for one minute. One-tenth of a minim in a fluidrachm of water gives a very distinct and much stronger impression, lasting generally for an hour or two. A good way of applying the test is to add 10 minims or 616 c. c. of the fluid extract to 12.5 fluidounces or 100 fluidrachms, or 369 c. c. of water, and agitate them well together. Each fluidrachm of this solution represents one-tenth of a minim. If the mouth be well rinsed out with water, and this quantity be held in the anterior part, around the end of the tongue, for one minute by the watch, and be then discharged, a distinct, definite and characteristic aconite impression is easily perceived. From one-tenth of a minim the impression is so strong at the end of ten or fifteen minutes that it is not easily missed.

If the solution be made one-half weaker, that is, ten minims in eighteen and three-quarter fluidounces, or 150 fluidrachms, so that each fluidrachm represents one-fifteenth of a minim of the fluid extract, then the impression from a fluidrachm of this is so faint that unless it be watched for, it is not always noticed. But if watched for, it is generally perceptible in fifteen or twenty minutes, and is stronger or weaker at intervals for half an hour, and then disappears.

This is about the limit of the test for a good fluid extract of full officinal strength, and no fluid extract should be accepted which does not give a distinct impression from one-tenth of a minim.

The Fluid Extracts of Aconite of three of the most prominent and largest makers for this market were carefully submitted to this test, with the following results:

The first is made with alcohol, and the label states that each minim represents ninety-five hundredths of a grain of Aconite Root. But on application of the above test no aconite impression was obtained. A stronger solution was then made, one-seventh of a minim in the f ʒ of water, but still no distinct impression was obtained. Then a solution of one-fifth of a minim to the f ʒ was tried, and gave a faint, but distinct, impression to two out of three persons who tried it. This preparation was therefore not more than half the standard strength, and therefore, if used in the standard dose of one to two minims, as given on the label, it could not yield the standard results.

The second bottle was also made with alcohol as a menstruum, and was described on the label as being of the standard strength of the U. S. Pharmacopœia of 1880, and the dose as being one minim or less to five minims. This preparation failed to give a distinct impression until the f ʒ of water contained three-tenths of a minim, and it was, therefore, about one-third of the standard strength, and three to six minims would be the standard dose.

The third specimen was made with diluted alcohol as a menstruum, and was described on the label as of the strength of a minim for each grain of aconite root. This preparation responded fully to the standard of the test. The cost of these fluid extracts was, respectively, $0.96, $1.20 and $1.31 per pound in quarter pound bottles, with discounts off. The first two must have been either very carelessly made or made from root of an inferior quality.

Now, as 1-2000 grain of good aconitine gives an impression, which is approximately equal to that from one-tenth of a minim of good fluid extract of aconite root, it follows that this tenth of a minim should contain approximately 1-2000 of a grain of aconitine. Then a minim should contain 1-200 of a grain, and two minims should contain 1-100 of a grain, and this gives practically the equivalent doses of the alkaloid and fluid extract when both are of standard quality. From this equivalency it would seem that good aconite root contains 1-200 of its weight or .5 p. c. of aconitine, but this is some six or seven times as much as is given by the best authorities, and more than three times as much as the writer has obtained under very favorable conditions. This discrepancy is at present without rational explanation, since it appears improbable that two-thirds of the alkaloid, or more, should be destroyed in the process of extraction.

In this connection it seems worth while to attract especial attention again to the rapidity with which dilute solutions of the salts of the strongest aconitine become inert. It has repeatedly occurred to the writer to find dilute solutions of the acetate of aconitine become entirely inert by standing 48 hours in closed vessels, and yet give no signs of the growth of mycelium to the naked eye. The quantity of alkaloid is, however, so very minute that growths sufficient to destroy it would be microscopic.

This whole subject of aconite and aconitine is treated of at much greater length at page 123 et seq., of this series of pamphlets, but as it seems to have attracted much less attention than the importance of the subject deserves, it may not be amiss to have returned to it with the results of accumulated experience, particularly when it is remembered that preparations of aconite are among the most prominent and definite articles of the modern materia medica, and becoming more important every day.—*An Ephemeris of Materia Medica, etc.*

ARTERIAL LIGATION AS A PROPHYLACTIC MEASURE AFTER SUDDEN AND PERMANENT OCCLUSION OF THE CHIEF VEIN AT THE ROOT OF AN EXTREMITY.

Dr. L. S. Pilcher (*Annals of Surgery*) summarizes an able discussion of this subject thus :

1. Serious circulatory and native disturbances are to be apprehended : *a*, in the upper extremity, when, in addition to the occlusion of the main vein at its root, simultaneous occlusion of any considerable number of the lesser and collateral branches has also taken place ; *b*, in the lower extremity, when the occlusion of the main vein at its root is sudden and complete, and has not been preceded by any conditions which might have occasioned a previous dilatation of collateral channels or the development of new ones.

2. The accidents of excessive œdema and of gangrene, when they occur, are due to the intense and active congestion of the limb, through the arteries, with blood for which there is no adequate outlet.

3. The development of collateral paths is not by the breaking down of valve-barriers at the entrance of large collateral trunks, but by the dilatation of a multitude of minute branchlets. To affect this an increased arterial *vis a tergo* is not required. Any increase in the normal blood pressure is attended with danger of overwhelming and fatally choking up the somewhat slowly enlarging collateral radicales.

4. The diminution of the amount of arterial blood which enters a limb whose chief venous outlets have become occluded down to an amount not greatly in excess of that which can readily find an outlet from it through paths still remaining, is the first great indication to be fulfilled in the treatment.

5. Whatever method is adopted to restrain the flooding of a limb with arterial blood, it must still permit the entrance of a supply sufficient for the nutrition of the limb. For this reason, in the lower limb, ligation of the common femoral is to be avoided, especially in the light of the disastrous results of such ligations already recorded.

6. Ligation of the axillary artery, in the upper extremity, and of the superficial femoral, in the lower, are safe expedients, and to be adopted as prophylactic measures, whenever occlusion of the venous outlets of a limb is so great as to hazard the integrity of the limb by reason of the circulatory stasis produced.—*American Lancet.*

A NEW TREATMENT OF GONORRHŒA.—Castallan, of St. Mandrier Hospital, starting with the view, now popularly entertained, that gonorrhœal urethritis is a parasitic disease, and being led by observation to believe that the microbe can only live in an acid medium; finding, moreover, that in this disease the discharge is, as a rule, acid, proposes to treat gonorrhœa in the acute stages by urethral injections of sodic bicarbonate; three or four injections being made daily of a one per cent. solution. For this treatment, which is but a logical inference from the premises, he claims remarkable success, although the cases on which it has been tried in St. Mandrier, as yet, number only a dozen. The injections of bicarbonate of soda are commenced as soon as the discharge appears, or the patient comes under observation; the urethral secretion is tested every day with litmus paper, and the injection is kept up till the discharge becomes alkaline or neutral. For internal treatment the patient is given flax-seed tea, with occasional doses of bromide, if there seems to be any indication for the sedative effects of this salt. His conclusions are as follows:

1. The urethral pus in the first stages of the disease is generally, if not invariably, acid; this acidity is quite pronounced.

2. The treatment by bicarbonate of soda rapidly lessens the discharge; it also rapidly diminishes or removes the pain in micturition.

3. In old urethritis, and in those which have been treated by the usual injections, it speedily brings about a cure.—*Boston Medical and Surgical Journal.*

NOTES.

ACCORDING to Dr. Robert McC. Lord (*Med. Journal*) when, in breech presentations, the head cannot be delivered soon enough to guard against asphyxia, air may be freely admitted to the child's mouth and nostrils, by gentle traction on the posterior vaginal wall with a Sims' speculum.—*Medical Age.*

DR. EMIL A. VON SCHWEINITZ, formerly Assistant Professor at Chapel Hill, has just finished an advanced course of study in Chemistry and Mineralogy, at the University of Gottengen, Germany, and is now a Doctor of Philosophy (Ph.D.) We are pleased to learn that he will be home soon in this place. We congratulate him upon his success.—*The People's Press, Salem, N. C.*

WE are gratified to receive the *Ephemeris* again. after a discontinuance of twelve months—during the time Dr. Squibb was absent in Europe. This valuable journal will be issued as before, whenever the editors think sufficient valuable material has been collected to make up a number. The present issue contains an exhaustive notice of hydrochlorate of cocaine manufacture, in continuation of remarks upon the same subject in the number which completed Volume II. The review of the Pharmacopœia of 1880 is continued, and this number takes up Extract of Opium.

QUININE IN 1694.—John Evelyn, in his "Diary," states that "on visiting the Marquis of Normandy, November 29th, 1694, he had much discourse with him concerning Charles II. being poisoned; also concerning the quinquina, which the physician would not give to the king at a time when, in a dangerous ague, it was the only thing that could cure him (out of envy because it had been brought into vogue by Mr. Tudor, an apothecary), till Dr. Short, to whom the king sent privately to know his opinion of it, he being reported a Papist (but who was in truth a very honest, good Christian), sent word to the king that it was the only thing which could save his life; and then his majesty enjoined his physicians to give it to him, which they did, and he recovered. Being asked by Lord Normandy why they would not prescribe it, Dr. Lower said it would spoil their practice, or some such expression, and at last confessed it was a remedy fit only for kings."—*American Druggist.*

Dr. H. T. Bahnson, Salem, N. C., wants the "Transactions" for the 1st, 2d, 5th, 12th and 13th annual meetings of the North Carolina Medical Society. He will give $10 for the set of five, or $1 for any single one.

Dr. Metcalf on the Treatment of Sciatica.—Dr. Metcalf, of this city, writes to the *Boston Medical and Surgical Journal*, that no prescription for sciatica has ever equalled in efficacy the following: ℞. Tinct. aconit. rad., tinct. colchic. sem., tinct. belladonna, āā ʒ j. M. Sig. Dose, six drops every six hours. He also uses triturate tablets, each containing three drops of the following: Tincture of aconite root, tincture of seeds of colchicum, tincture of belladonna, tincture of actea racemosa—equal parts by volume. Dose, one every four or eight hours.—*Med. Record.*

The Danger of being a Pioneer in Oöphorectomy.—Dr. Robert Batty, now the pride of Southern medicine, says, in describing the history of his first case: "While engaged in nursing assiduously, as I did my first patient, spending ten days at her bedside, without leaving the house for a moment, even for a change of linen—during this time of great suspense and anxiety, in the office of one of my brother practitioners, were held nightly meetings of the profession of the town, receiving reports on the condition of my patient, awaiting her demise with anxious longings in order to institute proceedings in our court and put me before the bar as a criminal."—*Med. Record.*

Mr. Frederick W. Lowndes, says the *Medical Record*, treats orchitis and epididymitis by painting the affected testicle with a solution of nitrate of silver, two drachms to the ounce, and enforcing strict rest in bed. The organ must be supported on a small pillow to prevent its hanging down. The result is prompt subsidence of pain and a return of the organ to its normal size in a few days. The result of this treatment is slower, but quite sure where the patient cannot be confined to bed; but the rest is quite an important item in the cure, as the remedy cannot act as efficiently when the organ is only supported by a suspensory bandage or handkerchief, as when absolute quiet is ensured by the recumbent posture in bed.

THE mortality from labor in China is estimated to be 8 per cent., or about 400,000 deaths annually.—*Medical Record.*

HOW TO ABORT A FELON.—Dr. John T. Metcalf writes to the *Boston Medical and Surgical Journal:* "My father was a medical man, who graduated from the University of Pennsylvania in 1816 or 1817. In 1839 I learned from him that a felon could, if seen early enough, be made to abort by wrapping the finger-end with narrow strips of adhesive plaster. When pus has been formed, I learned twenty years ago, from a country doctor, that immediate relief and speedy cure would follow the gentle, slow separation of the nail from its envelope by means of a penknife blade, not too sharp, at the point nearest the seat of greatest pain. Very soon a drop of pus shows itself, and relief comes. I am aware that the plan described is known to many medical men. It was not known to me at the time referred to, when the country doctor showed me how to treat a paronychious patient, whose finger I was about to lay open by the 'free incision down to the bone, taught in the lessons of my great masters.'"—*Medical Record.*

VACCINATION AND THE ANTI-VACCINATORS.—The London Society for the Abolition of Compulsory Vaccination has adopted a resolution to the effect that, inasmuch as vaccination has been "the means of spreading dangerous and infectious diseases," and that this is no longer denied by the heads of the profession, it is the duty of medical men to petition Parliament for the repeal of the Vaccination Acts. It would be equally rational to expect the medical profession to take up an attitude of opposition to the wearing of clothes, because certain garments had been known to induce a skin eruption, or, as the medical officer of the Local Government Board lately argued, to protest against the use of bed-clothes because babies were occasionally smothered in bed. The childishness of the proposal carries with it its own condemnation. Medical men see, in the occasional very rare accidents attending vaccination, reasons for endeavoring to make the method of operation as perfect as possible, not for abolishing a means of protection, which annually saves countless persons from death by one of the most terrible disorders which has ever afflicted mankind. We do not, therefore, anticipate that the proposal will meet with a favorable response, nor do we suppose that such is expected.—*British Medical Journal.*

The *Boston Medical and Surgical Journal* says: "Through the admirable activity of Dr. H. I. Bowditch, the Boston Relief Committee have voted to appropriate $5,000 to the Medical School and the Roper Hospital of Charleston, S. C." This generous contribution from Massachusetts to South Carolina will be received with as much appreciation as its magnanimity deserves.—*Maryland Medical Journal.*

Dangerous Lemonade.—A style of lemon-squeezer has been recently sold quite extensively which is made of galvanized iron, or iron covered with a coating of zinc. A word of caution should be given against the use of such articles, as the citric acid of the lemon will readily dissolve the zinc, forming unwholesome and poisonous salts. Lemon-squeezers should be made either of plain iron or wood, or, better, like some we have observed, where the surfaces brought into contact with the fruit are of glass or porcelain. Zinc is a metal which is readily attacked by the weakest acids, and no article of food or drink should ever be allowed to come in contact with it.—*American Druggist.*

The *Western Druggist* says: "More patent medicines proportionately are sold in the United States than elsewhere. The great middle class buys most of them. The smaller country newspapers subsist largely upon advertisements of these 'remedies,' and at least $100,000,000 have been paid newspapers during the last two decades, while upwards of $5,000,000 have been expended in rock and fence advertisements. The field for new patent medicines is narrowed every day. Cathartic pills and sarsaparillas do not succeed readily, because so many well-established specimens occupy the field. Until the stamp tax was abolished patent medicines yielded the Government $1,800,000 annually. The census of 1880 shows that there were then 563 establishments in this line in the United States, employing 4,015 operatives; that the capital invested was $10,620,900, and that the value of the annual output was $14,682,000. New York stood first in the amount of capital invested ($3,512,430), and in annual output (nearly $4,500,000); Pennsylvania second in capital invested ($2,000,000), and third in annual output ($1,000,000); Missouri third in capital ($1,500,000), and fourth in annual output ($750,000); Ohio fourth in capital ($570,000), and fifth in annual output ($450,000); Massachusetts fifth in capital ($521,000), and second in annual output ($1,500,000)."—*Medical Record.*

BOOKS AND PAMPHLETS RECEIVED.

Method in Medical Study. Charles H. May, M.D.

Transactions of the Medical Association of the State of Missouri, 1886.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, 1886.

Suggestions as to Substitutes for the Tracheotomy Tube. By John H. Packard, M.D.

Is Electrolysis a Failure in the Treatment of Urethral Strictures? By Robert Newman, M.D.

A Case of Pregnancy Complicated with Uterine Fibroids and Measles. D. W. Cathell, M.D.

Further Consideration in Regard to Tracheotomy for Croup and Diphtheria. By John H. Packard, M.D.

Report on Rhinology. The Treatment of Nasal and Pharyngo Nasal Catarrh. J. Addison Stucky, M.D.

An Address before the Literary Societies of the University of North Carolina. By Hon. Augustus Van Wyck.

The Amblyopia of Squinting Eyes: Is it a Determining Cause, or a Consequence of the Squint? By Samuel Theobald, M.D.

The Exploration, Excavation and Illumination of the Interior of Bones in Any Part of the Body. Milton Josiah Roberts, M.D.

The Call to Work. A Baccalaureate Sermon to the Senior Class of the University of North Carolina. Rev. Charles H. Hall, D.D.

Report for the Year 1885–'86 Presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

Antisepsis in Ovariotomy and Battey's Operation. Seventy Consecutive Cases with Sixty eight Recoveries and Two Deaths. By Robert Battey.

Miconeuropathia. By C. H. Hughes, M.D.

Naso-Pharyngeal Catarrh. By J. G. Carpenter, M.D.

Address on State Medicine. By John H. Rauch, M.D.

Annual Report of the Commissioner of Pensions, 1886.

Cases in Orthopædic Surgery. By Morgan Vance, M.D.

A Case of Reflex Otalgia. By S. Latimer Phillips, M.D.

Urethral Lithotomy in the Female. By J. G. Carpenter, M.D.

The Treatment of Uterine Flexions. Virgil O. Hardon, M.D.

Antisepsis in Ovariotomy and Battey's Operation. Robert Battey, M.D.

On Certain Mooted Points in Gynecology. By Thomas Addis Emmett, M.D.

Subcutaneous Division of Urethral Stricture. By Claudius H. Mastin, M.D., LL.D.

Certain Hereditary and Physical Phenomena in Inebriety. By T. D. Crathers, M.D.

A Case of Lithotomy with Artificial Opening for Drainage. By J. G. Carpenter, M.D.

Experience with Some of the Recent Suggestions in the Treatment of Eye Diseases.

The Relative Influence of Maternal and Wet-Nursing on Mother and Child. By Joseph Edcil Winters, M.D.

The Curvette as a Diagnostic and Therapeutic Agent in Gynecology and Obstetrics. B. Bernard Browne, M.D.

Grave Importance of an Early and Accurate Diagnosis when Eyesight is Failing. By Joseph A. White, A.M., M.D.

Two Papers. By W. H. Daly, M.D.—Laryngology and Its Branches in America. The Simplest and most Efficient Treatment of Diphtheria.

OBITUARY.

DR. JOSEPH HOLLINGSWORTH.

Died, on the 20th of January last, Dr. Joseph Hollingsworth, at his home, in Mt. Airy, Stokes county, N. C., in the sixty-seventh year of his age. He graduated at the Jefferson Medical College of Philadelphia, and has always been the trusted physician and friend of his section, enjoying the confidence of his people in every capacity in which his worth has been tested.

He served one term in the State Legislature, but not finding politics in accord with his tastes and habits, he declined a re-election.

He was a member of the North Carolina State Medical Society, having joined that body in ——.

We beg leave to offer our sympathy and condolence to his family and friends.

DR. J. F. M. GEDDINGS.

Dr. Geddings died in the city of Charleston, S. C., February 3d, 1887. He was a graduate of the Medical College of the State of South Carolina, about the year 1850. He was the eldest son of the late distinguished physician and surgeon, Dr. E. Geddings, and he attained an enviable position in the profession in his State and in this city.

Dr. Geddings spent two years in Paris and Germany, and after his return was for sometime one of the professors in the Medical College in Charleston. He was always a close student, devoted himself to the study of pathology, was very proficient in the use of the microscope, and as a practitioner held a very high rank. He was very often called in as a consultant by his medical brethren, and was at one time President of the State Medical Association.

His health had never been very good, as he suffered from valvular disease of the heart consequent upon repeated attacks of rheumatism. He was pursuing his professional duties within a few days of his death, which was caused immediately by an affection of the lungs.

His medical brethren gave evidence of their respect and esteem for him as a man and a physician by the unusually large gathering at his funeral.

We clip from an article in the *News and Courier* of February 4th the following:

"Dr. Geddings was regarded universally as a physician whose industry and technical education had won for him a first place in the profession. He was a scholar in medicine in every sense of the word. His practice was consequently very large, and he was especially popular as a 'family physician.' Apart, however, from the finished education of Dr. Geddings as a physician, he was a man of varied literary attainments. Always a close student and observer of the progressive movements in his chosen calling, he found time, among his arduous labors, to keep pace with the general literature of the present time. He was, therefore, an accomplished scholar and a man of the most general information. In his private life Dr. Geddings was as exemplary as he was modest and unassuming, notwithstanding the easy pre-eminence which his natural talent and singular gift in diagnosis, together with his education and attainments gave him. In him the medical fraternity of the State has lost a most distinguished associate, and Charleston one of its most worthy and representative citizens."

During the civil war Dr. Geddings was appointed to the charge of the Academy Hospital in Augusta, Ga., with the rank of surgeon, and just before the close of the war served as surgeon on the coast.

READING NOTICES.

FREDERICK STARRS & Co., of Detroit, have sent in samples of their medicines, which consist of the active principles of drugs, in powder and granules for internal use, and pellets for hypodermatic use and fluid extracts, in which the active principle has been assayed and the fluid brought to a standard strength.

MALTINE AS A FOOD-SOLVENT.—Referring to the use of MALTINE in his treatment of indigestion, Dr. Fothergill says: "Then, again, in order to aid the defective action upon starch by the natural diastase being deficient in quantity or impaired in power, we add the artificial diastase, MALTINE. But, as Dr. Roberts points out, in order to make this ferment operative, it must not be taken after a meal is over. Rather it should be added to the various forms of milk porridge or puddings before they are taken into the mouth. About this there exists no difficulty. MALTINE is a molasses-like matter, and mixes readily with the milk, gruel, etc., without interfering either with its attractiveness of appearance or its toothsomeness; indeed, its sweet taste renders the gruel, etc., more palatable. A minute or two before the milky mess is placed before the child or invalid, the MALTINE should be added. If a certain portion of baked flour, no matter in what concrete form, were added to plain milk, and some MALTINE mixed with it before it is placed on the nursery table, we should hear much less of infantile indigestion and malnutrition." Again, the same eminent authority, in Fothergill & Wood's "Food for the Invalid," says: "The action of the saliva upon starch is to quickly convert it into sugar. Consequently, as sugar is soluble, this leaves the nitrogenized portion of the flour to be readily acted upon in the stomach. When the saliva is defective in an infant, or at least insufficient to produce the conversion of starch into sugar, it is now customary to give the infant MALTINE. MALTINE is a sweet, molasses-like sort of thing, which can be added to baby's food a brief period before it has to be taken, for the conversion is quick. The starch being thus largely converted into sugar, the digestive act in the stomach goes on without painful effort. The treatment of dyspepsia in adults is carried out on precisely the same principle, and baby's food and MALTINE are equally good for them."

NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

REPORT OF A CASE OF EXTERNAL ŒSOPHAGOTOMY.

By E. Burke Haywood, M.D., Raleigh, N. C.

B. J. P. Pool, male, aged 24, farmer, has worked hard and been much exposed to bad weather; was not successful in making good crops, became despondent and health failed; had an attack of remittent fever in the spring of 1884, and a relapse in the following July; never regained his health; showed symptoms of insanity in December, 1884, which rapidly developed into mania; was admitted into the North Carolina Insane Asylum May 31, 1885. At that time he was pale, emaciated and debilitated; he had a sunken chest and stooping gait. He was in the habit of chewing and swallowing sticks, rags or anything of that kind he could get hold of. He on one occasion attempted to kill himself by sticking a fork into his throat, and his voice in consequence was rendered shrill and sharp. July 26th, 1886, he swallowed a hard substance which lodged in the œsophagus, just below the cricoid cartilage, and so occluded that tube that it was impossible for any fluid to pass beyond it. Repeated efforts were made during four days by the medical officers of the Asylum to catch it with an œsophageal forceps or to dislodge it by a sponge-headed probang. Failing in these attempts, and fearing that ulceration and perforation might ensue if it remained any longer impacted in the œsophagus, a consultation was requested by Dr. Grissom, the Superintendent of the Asylum. Dr. E. Burke Haywood, the consulting surgeon to the Asylum, was sent for by Dr. Grissom, who was confined to his room by sickness. The consultation was held with Drs. Fuller and Rogers, assistant physicians to the Asylum, and Dr. Hubert Haywood, of Raleigh. The unanimous decision of the consultation was that external œsophagotomy ought to be performed.

July 30.—The patient was etherized and placed in a supine position, with the head and shoulders a little raised. The left side of the neck was chosen for the operation because the œsophagus naturally inclines somewhat in that direction. The face was averted to the right side. Beginning on a level with the top of the thyroid cartilage, an incision was made along the anterior border of the sterno mastoid muscle about five or six inches long. This incision was cautiously deepened and the soft parts carefully dissected until the omo-hyoid muscle was reached; underneath this the carotoid sheath, with its vessels and nerves, was found; this was carefully drawn outwards and held with a blunt retractor. The dissection was continued; the larynx, trachea and œsophagus having been reached, a careful search was made for the foreign body, external pressure being made with the fingers on the right side of the larynx, trachea and œsophagus, but it could not be felt. Bond's curved œsophageal forceps was then introduced through the mouth into the œsophagus and made to project the wall of the œsophagus into the wound. An incision was then made through it over the space between the bevelled edges of the blades of the forceps. A sponge-headed probang, well oiled, was passed through the incision in the œsophagus, carried downwards and the obstruction found opposite the third costal cartilage. Repeated efforts were made to grasp it with the œsophageal forceps or to dislodge it with the sponge-headed probang, but without success. After thoroughly saturating a sponge-headed probang with glycerine and applying it to the obstruction, the patient was left in charge of the medical officers of the Asylum.

During this operation there was no blood-vessel of any size cut or any important nerve wounded.

On the morning of the 31st of July the obstruction was found to have passed into the stomach, and the patient could swallow liquids without their passing through the wound. He was fed by means of a stomach-tube with milk or liquid beef peptonoids.

August 4.—The obstructing substance passed through his bowels. It was found to consist of two suspender buckles, two suspender straps, attached to metal rings, and a small piece of ribbon, wrapped into a disk by means of a shoe-string. It measured 1½ inches long, 1 inch broad and ½ inch thick.

He did pretty well until August 28th, when he had a chill followed by fever, profuse perspiration and other symptoms of septic infection. He continued to grow worse, and died September 17th, having lived one month and eight days after the operation. The external wound in the neck was united with the exception of three-fourths of an inch at its lower extremity.

Insane persons make bad surgical patients. They will not aid you in their examination, and will mislead or deceive you in answering your questions and endeavor to disturb or take off the surgical dressings applied to their injuries. At an autopsy made of the patient, there was found in the upper lobe of the right lung a large abscess and several other small abscesses throughout its whole extent. The middle and lower lobes of this lung contained abscesses of a similar character.

I am indebted to Dr. Sion H. Rogers, Second Assistant Physician to the North Carolina Insane Asylum, for the use of his notes taken during the progress of this case, and also to Drs. Fuller, Hubert Haywood and Rogers for valuable assistance rendered during the operation.

Prof. Samuel D. Gross* writes: "I have never performed œsophagotomy, and such an operation will, I presume, rarely, if ever, be required, if proper direction be given to our attempts at extension. It is only when the *foreign body is immovably fixed* in its position that this question should be at all entertained.

◆

PELLETIERINE has been found by Dr. Galezowski, of Paris, to be a remedy for paralysis of branches of the third and sixth cranial nerves; improvement or cure having followed, in several instances, after three to six doses.—*American Druggist.*

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*Gross' System of Surgery, Fifth Edition, Vol. II., p. 566.

CASES OF OVARIOTOMY.

By Cornelius Kollock, A.M., M.D., of Cheraw, S. C.

Case 1.—Mrs. M. M., aged 32, married 13 years ; has six children, youngest 2 years of age ; has always enjoyed good health. Soon after last accouchment a fullness, with some enlargement, was noticed in the left iliac region. The swelling increased rapidly throughout the abdominal cavity, but the general health was so good pregnancy was suspected, although menstruation had continued with the utmost regularity. There was no abatement of the growth till the date of my first examination of the case in December, 1884, when the tumor occupied the whole of the pelvic and abdominal cavities from the cul de sac of Douglas to the diaphragm. Fluctuation was distinct over the whole abdominal cavity. Dullness of percussion over the left ovary. The absence of depression at the umbilicus and bulging of the flanks when in a recumbent position, dismissed the idea of ascites.

On the 20th of February, 1885, the operation was performed, Drs. Prince, Miller, Wilson, Jones and Waddill assisting. Abdomen was opened four inches. Extensive and firm parietal adhesions were encountered. The cyst was also fastened to the omentum and bowels. So firm was the adhesion to the omentum, a section of it had to be removed, and it was necessary to excise a patch from the cyst wall and leave it on the bowel to avoid a laceration of the latter. Realizing at this stage of the operation the dimensions of the tumor, the incision, which now reached the symphysis pubis, was carried about two and a half inches higher, passing to the left of the umbilicus, in order to avoid the round ligament of the liver and its vessels which come in there from the right side. The tumor was of an irregular globular form, filling Douglas' cul de sac and the pelvic cavity below, and snugly pressing against the antero-posterior inclination of the diaphragm above. The tumor was composed of two large cysts, and to each were appended from eight to twelve smaller ones—the smaller varying in size from that of a medium size orange to that of a walnut—some were even smaller. Wells' trocar was then introduced and the cysts emptied and the tumor dislodged. As the cysts were emptied the increased action of the diaphragm in respiration was very perceptible. The fluid contained by the different cysts varied as much in appearance as did the cysts in size. While one was filled with a dark, grumous, greasy fluid, another contained a brownish-looking fluid, with white streaks running through it, thick and closely resembling pus, while a third was filled with a clear, limpid fluid, evidently pure serum. The cyst and contents weighed 28 pounds. The pedicle was long, thick and broad, and was secured by Peaslee's chain ligature, cut and dropped into the cavity. The toilet of the peritoneum was carefully made. Too much attention cannot well be bestowed on this vascular and sensitive tissue. We must think that much of the success in all abdominal operations, more especially in that of ovariotomy, is due to careful handling of the peritoneum. The cavity being thoroughly cleansed, was closed by nine deep and five superficial sutures, supported by adhesive strips. As there was much oozing from vessels ruptured in breaking up the adhesions, a drainage-tube was kept in for two days. The patient recovered without a bad symptom, and returned to her home in four weeks.

Eighteen months after the operation this patient gave birth to a fine healthy child.

Case 2.—Mrs. J. T. H., aged 46, the mother of 11 children, rather stout, weight 146, black hair and eyes and dark complexion. Her health was poor for several years and she suffered from dyspepsia and constipation. She was also troubled with persistent metrorrhagia, supposed to be owing to a degenerate state of the endometrium. Her condition was anything but promising. But the operation had already been delayed too long. At the time of the operation the patient was in rather better health than she had been for several years.

A multilocular cyst of the right ovary was diagnosticated.

Operation 12th December, 1885. Present, Drs. E. F. Ashe, E. Miller, D. B. Prince, J. Bennet, C. W. Kollock and W. Ingram. An incision of three and one-half inches below the umbilicus reached the peritoneum. Owing to the extent and firmness of the adhesions and the difficulty of manipulating the tumor, the incision was extended about two inches above the umbilicus. The cyst was adherent to the abdominal walls from the pelvic cavity to the diaphragm ; was also fastened to the omentum and bowels. The adhesions to the bowels and omentum were easily broken, but were so firm on the walls of the abdomen that one or more patches from the cyst wall had to be excised to avoid injury to the peritoneum. The operation occupied more than an hour. There was very great oozing and a drainage-tube was put in. The patient was very much exhausted. Partial reaction took place in the course of a couple of hours, but there was so much nausea that no restoratives could be given by the mouth. Milk, brandy and quinine were administered often by enemata. The incision was closed by eight deep and five superficial sutures, supported by adhesive strips and elastic flannel bandage. The nausea continued for 24 hours, but the patient failed to rally after she was able to take nourishment. In more than thirty hours after the operation less than three ounces of urine were discharged. Death occurred on the third day, and evident symptoms of uræmic poison were present. If there is a renal trouble, there is very apt to be suppression of urine if ether is employed. Chloroform does not have this effect. The cyst weighed 18 pounds. The cyst walls were very tough, not torn at all by the volsellum and sac-lifter.

Case 3.—Mrs. R. D. P., aged 36, has six children, eldest 16, youngest 5 years; a widow four years; a bright blonde, with very light hair and blue eyes; very nervous and excitable; always enjoyed good health till she was thirty years of age, when she noticed a fullness in the left iliac region. Soon after this a small tumor was perceptible to the touch. Menstruation was regular and unaccompanied by pain. She continued to increase in size, and when I first saw her, a short time before the operation, the abdomen was very much distended—girth at the umbilicus measured forty-three inches. She was much reduced in strength and flesh, being 18 pounds lighter than in health. She was too feeble at that time to undergo an operation, and was put on a preparatory treatment. Iron, wine, a generous diet, with a daily bath, soon brought about a material change for the better in her condition.

Operation 21st of January, 1886. Assistants, Drs. David, Woods, Palmer and Smith. An incision of four inches below the umbilicus reached the peritoneum. Adhesions were not extensive or firm, were easily broken up, except at a single point on the left abdominal wall, the side to which the cyst most inclined, it being attached to the left ovary. At this point the adhesion was a little refractory; but finally yielded.

The operation occupied 38 minutes. The patient was greatly nauseated and very much exhausted, so much so as to excite alarm.

After a few hypodermic injections of brandy and enemas of brandy, milk and quinine, reaction came. The cavity was thoroughly cleansed and the incision closed by seven sutures, four deep and three superficial. The cyst weighed 26 pounds.

The wound healed readily by first intention, and the sutures were all removed in eight days after the operation. Although the patient seemed to be comfortable and apparently doing well, she regained her strength very slowly. It was four weeks before she was able to sit up more than a few minutes at a time, and six weeks before she could walk about her room. She finally made a good recovery, and wrote me six months after the operation that her health was better than it had been in five years.

Case 4.—Battey's operation. Miss E. H. P., aged 31. Menstruation commenced at 13 years of age ; has always been accompanied by more or less pain ; is generally confined to her bed the greater part of each period. Pain has been constant in both ovaries for the past twelve years ; more severe in the left; catamenia irregular and excessive. I first saw the case on the 3d of February, 1886. Uterus was in a normal condition, with the exception of some engorgement of the cervix. Both ovaries were exceedingly tender ; nervous system broken down and mind evidently impaired. Menstruation appeared on the 26th of January, was very excessive, more so than usual. As each menstrual flow was more profuse than the one preceding, and as there was but little hope for relief from the menopause, normal ovariotomy was proposed.

Operation February 8, 1886. Assistants, Drs. Wheeler and Anderson and a trained nurse. The abdomen was opened by an incision of three and a half inches below the umbilicus. The ovaries were not adherent, but as the pedicles were short they were drawn out with some difficulty. After applying the ligatures both ovaries were removed. The tubes seeming to be healthy were not disturbed. One ovary was cystic and contained a corpus luteum of the late catamenia ; the other was thick, shrunken and corrugated. The patient was very much exhausted after the operation, which occupied only 24 minutes, and was troubled with nausea and retching for several hours. Pulse was very feeble and slow, not more than 35 beats to the minute. A few hypodermic injections of brandy soon brought it up to the natural standard, and soon there was a good reaction. The patient improved steadily every day, and on the 10th of March returned to her home. Nothing but good reports have come from her since the operation. She seems to be perfectly well, is entirely clear of pain, and there has been very little discharge since the operation. On the 21st of March there was a very slight discharge and there was again, on the 18th of June, barely a sign. Since the latter date there has been no discharge of any kind, and perfect health seems to reign. Appetite and digestion are good. She is bright and cheerful, and all indications of mental disturbance have disappeared.

VESICO-VAGINAL FISTULA.

By Thos. S. Burbank, M.D.

Clara C., primapara, aged 30, single ; nativity United States ; occupation house-servant ; menstruated at 14 ; menstruation regular and painless. Family history good. Has always enjoyed good health up to present illness. About eight months prior to my first visit was delivered of a full term male child, after a labor of seventy-two hours.

On visiting patient, twelve miles in the country, I found her in bed, very much emaciated, with an anxious, painful countenance, indicative of extreme suffering ; bowels constipated, pulse accelerated, weak and compressible, tongue coated with a slimy white fur, skin dry, temperature $101\frac{1}{2}$°, thirst, anorexia and urine dribbling away, the whole room scented with an ammoniacal odor.

The following history was obtained from patient : Eight months previous she was confined, labor lasting seventy-two hours, very hard but natural. Everything progressed favorably until the end of the first day, when, to use her expression, "the child stopped." Pain continued irregular, slight at times, then very severe, until from exhaustion they ceased altogether. In this condition she remained until the close of the third day, when a physician was sent for, who, after much trouble, succeeded in delivering manually. Retention of urine with vesical tenesmus followed and continued for one or two days, then all desire to pass water was gone, and she found urine passing in discharges. (She judged so from smell.) After recovering from the effects of labor her diagnosis was verified by the loss of all desire to evacuate bladder, the parts and clothing being constantly wet and a strong smell of urine about her person.

The labiæ, nates and inner side of thighs became abraded, sore and painful, and she began to lose strength. In this condition she remained, growing gradually worse until I saw her.

After learning her history and making the foregoing examination, I proceeded to make a digital examination per vaginam. Without assistance or an anæsthetic, I found this anything but an easy or pleasant job. The parts were much swollen and exquisitely tender, but after much pain to patient and worry to myself, I succeeded in developing the following facts: With left index finger introduced into vulva and passed along anterior vaginal wall, simultaneously a silver female catheter passed through urethra into bladder with my right hand, patient in recumbent posture, knees flexed on abdomen, I discovered vagina bathed in fluid and a quantity of a hard cretaceous substance adhering to its walls (which on analysis proved to be phosphates), a rent in anterior vaginal wall, involving fundus of bladder, large enough to freely admit my index finger. I could feel catheter in bladder.

Using all palliative means in my power, and advising an early removal to my town, I left her. The third day following she presented herself for treatment. I immediately regulated the secretions, put her on general tonic treatment with mild astringents locally and enjoined perfect cleanliness. After bringing her up to the highest point of tonicity attainable, I proceeded, with the valuable assistance of Drs. L. S. Yeates and E. Ewell, to perform Sims' operation for vesico-vaginal fistula in detail. Being a novice, I found some difficulty in paring and fitting edges properly, but finally succeeded, introduced six silver sutures, shouldered and twisted them, washed out bladder thoroughly with tepid water carbolized; patient put to bed and sigmoid catheter introduced; pain was slight and no constitutional disturbance followed operation, though no anæsthetic was used. Catheter removed and cleansed and vagina washed out with warm carbolized water every morning; diet light and nourishing; morphia for pain and restlessness, together with an occasional enema to relieve bowels constituted the treatment.

On fourteenth day sutures removed, bladder injected, no leak, patient kept in bed with catheter in position for several days, was on twenty-first day allowed to sit up and discharged. Three weeks after patient again consulted me for slight dribbling of urine. Examination in Sims' position revealed fistula sufficient to admit ordinary knitting-needle ; her physical condition being good, after trying cauterization and other means with no result, I determined to perform a second operation. After removing stitches I found parts in worse condition than before operation, and failing in two other attempts to get the much desired union by Sims' method, I determined to try Simon's, using Sims' position. A ring of tissue around fistule, including mucous membrane of bladder, was taken out and opening brought together by silver sutures passed through vesical mucous membrane, patient not confined and no catheter used. No disturbance followed, no dribbling and urine voided naturally. Stitches removed on fourteenth day, no union and patient's general condition bad from an attack of malaria, precluding all chance of an immediate operation. I was at a loss how to prevent the escape of urine and a repetition of her former suffering until I could tide her through her malaria, and again get sufficient tonicity to hope for benefit from another operation. To meet this difficulty I devised a dumb-bell made of the finest surgeon's sponge, thoroughly cleansed and disinfected it and buttoned through fistule. The effect was all that could be desired—perfect retention of urine, no vesical disturbance and patient able to resume her duties as house-servant. The sponge was worn several months, patient regained her former health, and, with the assistance of Dr. W. H. Harrell and Mr. H. L. Williams, a medical student, I proceeded to perform a sixth operation (after Sims'), determined to "do or die," with the happy result of perfect union and a cured patient.

Worshipers of Small-Pox.—There is nothing, however monstrous or grotesque, that is deemed unfit for worship, says Mr. Saltus in his "Anatomy of Negation." In Benares there is a shrine to small-pox, in Gaya there is one to the police. Perhaps in this city there will soon be one for both.—*Med. Record.*

OBSCURE SYMPTOMS FOLLOWING THE INGESTION OF BEANS KNOWN AS FORTY-FOOT BEANS.

By D. B. Frontis, M.D., Wadesborough, N. C.

Case.—Jimmie K., male, 20 months old. On October 25th the child was seen playing with a number of pods of the bean (*Dolichos lablab* (*purpurea*) known as the forty-foot bean, grown for ornamental purposes. At 12 P. M. had five or six convulsions in rapid succession. Temperature 102.50°. October 26th at 1:30 P. M. had another convulsion. On October 29th Dr. E. F. Ashe, the physician in charge, left town for a few days, and I was called at 11 A. M. The parents informed me that 102.50° was the highest temperature the child had had, but had been very nervous and restless all the time. Almost constant twitching of the muscles. When awake frequently rubbed his nose. The parents pointed this out at once, saying it had been constant since first taken, and they suspected worms. I regarded it simply as a symptom of intestinal irritation. The bowels had been opened freely with calomel by Dr. Ashe, but there had been no action for twenty-four or thirty-six hours previous to the time I took charge. At 11 A. M. temperature was 102.8°. Pulse slightly accelerated. Respiration normal. Child rather drowsy. Would awaken frequently with contraction of facial muscles from apparent pain in bowels, flexing lower extremities on abdomen, but would not scream or cry much. Pupils normal and responsive to light. Slight swelling of the tonsils, no redness or deposit. Abdomen full and soft, no tympanitis. Antipyrin grs. 12 was given whenever temperature went to 102.5°, and quinine grs. ij every 3 hours. The temperature would be reduced to 100° or 100.5° by the antipyrin and would remain so for four or five hours. Gave ol. olivæ. ʒ j ol. terebinthinæ gtt. j every 2 hours as a soothing laxative.

Saturday, October 30.—Temperature ranged higher, marking 103° at 1 P. M. Gave no quinine to-day and antipyrin at long intervals. Discontinued quinine, as it induced nausea, and I could not satisfy myself that there was any malaria in the case. Drowsiness very pronounced. Subsultus tendinum decreased during the day. Early in the morning I prescribed the following sedative mixture :

℞.—Tr. belladonnæ.............................. ʒ j
Aq. lauro-cerasi................. .... ʒ ii
M. Sig. Five drops every 2 or 3 hours.

After giving eight doses of the oil and turpentine mixture, gave two large enemas of oil at interval of one hour. No action other than enema and a few small scybula. Went back to the use of oil and turpentine every two hours. As the day advanced stupidity and somnolence increased. Pupils remained unchanged. Respiration normal. Pulse began to show a peculiar and rythmical ebb and flow. At one moment it would be 100 and normal in quality. It would then gradually increase to 160 per minute, small and wiry, then gradually decline again until apparently perfectly normal. I noticed this carefully for sometime, the ebb and flow occupying from two to three minutes. The child slept nearly all the time. Would have to be awakened to give medicine, and would relapse into slumber almost immediately. Noticed that cervical muscles were perfectly relaxed, would not hold his head up. At night ordered the child rubbed over abdomen and flexor surface of the limbs with oleate quinine 5 per cent., diluted one third with olin oil. This was continued every four hours. Very early Sunday morning, October 31st, the little patient had two good actions that were perfectly healthy-looking except containing two whole beans and what was probably three or four that had been bitten into pieces. He immediately began to revive from his somnolent condition and was much brighter, and, indeed, playful, although the temperature ranged from 100° to 102° during this day. In the afternoon it was discovered that there was a good deal of swelling in left parotid region. Left tonsil slightly swollen. A liniment of turpentine, camphor and sweet oil was applied externally.

November 1.—Parotid swelling has subsided very much. Still a little fever and the use of oleate quinine was continued.

November 2.—Left ear began discharging a little thin pus and blood. Convalescence from this on rapid.

REMARKS.

I was troubled in this case to make a positive diagnosis. That there was something acting as irritant to gastro-intestinal tract I thought probable. At first I supposed the fever to be malarial, but the exacerbations were too irregular and the child certainly got well on a minimum amount of quinine. It is true the oleate was used after internal administration was abandoned, but I question very much whether enough quinine entered the system to have any anti-periodic effect. The somnolence was the most striking symptom, and this increased gradually from the time the case came under my treatment until the beans passed. The sleep was so tranquil that one would hardly suppose the child sick, if attention were not drawn to the muscular twitching and the occasional spasm of pain that would cross its features. When I was informed that the child had been playing with these beans and was questioned as to their being poisonous, I remembered that I had frequently heard them spoken of as poisonous, but knew nothing about their specific effects. After the beans passed I was strengthened in this supposition, although I have not been able to find any corroborative testimony. I acknowledge it is possible to explain the symptoms as a result of irritant action, modified in some manner by the peculiar temperament or constitution of the child. But there is unquestionably a tradition among housewives that the bean is poisonous. It is evident that if it has any toxic effect it is quite mild. The child swallowed these beans on Sunday and did not pass them until early the next Sunday morning. The first spasms were undoubtedly the result of irritant action. But why did the spasms cease before the irritant passed away, and why the marked somnolence without apparent cerebral trouble? After I took charge I gave no remedies that could possibly have had this effect. The beans were rather hard, and it is reasonable to suppose that whatever specific effect they might possess would be slow of observation. The bean did not irritate the bowels to the extent of producing any gastro-intestinal catarrh, for the actions with beans and afterwards were perfectly healthy. There was no obstruction, the bowels had acted freely from calomel. The complications following, the parotid swelling and aural abscess, I cannot think had anything to do with the symptoms previous to the passage of the beans. Somnolence was most marked on October 30th. Ear did not begin to discharge until November 2d, three days afterwards. This was a very trivial affection, for it soon ceased.

A verbal report of this case was made to the Anson County Medical Society, and our President, Dr. W. H. Battle, of Lilesville, made inquiry of Prof. Holmes, of the State University, who replied that the bean was not only not known to have any toxic effect, but was considered edible. I also wrote to Dr. Thomas F. Wood, of Wilmington, who very kindly investigated the matter for me, and made me a report similar to that of Prof. Holmes.

[Note.—*Dolichos lablab var. purpurea* (Nat. Ord. Leguminosæ) is the plant referred to above. It is known commonly as the *hyacinth bean*, and is much cultivated as an ornamental lattice vine. It was imported from India in 1814. Its fruit, which is a bean, is edible when cooked, and so is the tuber of an allied species. The flowers are about an inch long, in showy purple elongated racemes. The pod is thick, broadly oblong and pointed. The seeds are tawny, with a white scar. The bean, therefore, may be considered harmless when cooked, but like many beans and peas which are used as articles of food, producing serious symptoms when taken raw, symptoms which cannot entirely be accounted for upon the fact that they act as foreign indigestible substances.—Eds.]

SELECTED PAPERS.

THE INTESTINAL SUTURE.

NEMedJ (O.S) 19: 142-159, #3, March 1887.

By Otis K. Newell, M.D., Assistant in Anatomy at the Harvard
Medical School, Boston. Read before the Surgical Section
of the Suffolk District Medical Society, May 5, 1886.

The subject of intestinal suture is one of such great interest and importance to-day, that I cannot do it full justice in this short paper. But I have endeavored by a brief review of its early history and a more close consideration of its development in the past few years to give a clear idea of the technique of the modern operation.

That this operation also is "no new thing under the sun," is shown by the fact that it was known to Celsus and practiced by many of the surgeons of early times. But notwithstanding that here and there isolated cases were operated upon, and intestinal wounds united by suture in some manner, it was still generally believed that, to meddle in any way with a tender and inflamed intestine, and above all to introduce sutures into it, was a grave and entirely unwarranted procedure. Total division of the intestine was, up to the beginning of the eighteenth century, looked upon as a necessarily fatal condition. Palfin taught, in 1710, that intestinal wounds could not unite, and advocated stitching the bowel to the abdominal wall so as to establish an artificial anus.

But the fact remains that many ingenious and often successful methods were adopted for the closure of intestinal wounds. In the Middle Ages Abulcasem and others made the most daring experiments with this operation. Roger united the intestine over a piece of elder tube, other operators used rolled pasteboard cards, pieces of candle, cork, swine's bladder, dried intestine and the trachea of an animal.

The latter appears to have been the favorite among the materials thus used, and this method received the name of the Suture of the Four Masters, from its having been used by the four celebrated monks who practiced surgery together at Paris in the middle of the thirteenth century. I may here state that, according to Rydygier, all references to intestinal suture performed in early times, are made in regard to transverse or longitudinal wounds, as the first recorded resection with union of completely divided intestine was the operation done by Duverger in 1837. It is useless to discuss here how the great authorities of different times, and contemporaneous operators, differed in regard to the safety of intestinal suture. Scarpa was opposed to every suture, while Jobert, Reybard, Larrey, Lembert and others were in favor of their use.

In all the early methods, however, the main idea was to approximate the edges of the wound, in a general way, so as to give them an opportunity to heal together, but no definite rules were given for uniting them in any particular manner.

The great epoch in the history of this operation came in 1826, when Lembert, then an interne in one of the Paris hospitals, and a contemporary of Jobert's, who was also an interne, declared that in order to obtain union of sutured intestinal wounds the great essential was to procure careful apposition of the serous coats, and since then this has been the established fact upon which the foundation and success of all following methods have been based. Owing to a misprint in the first publication of the method Lambert was substituted for Lembert, and hence the frequent misquotations made even at the present time.

But a short time previous to Lembert's discovery, Jobert had published an account of his Invagination Method, and it is not at all unlikely that in the study of it Lembert's idea found its source.

This consisted in invaginating the lower end of the bowel, and then drawing the upper down into it and fastening it in place by means of sutures, two or more in number. These sutures passed through the whole thickness of the bowel and were intended to finally cut their way through and pass off with the stool. This method approximates the serous coats more or less closely and gives quite good chances for union. Its disadvantages, however, are that under ordinary circumstances it is impossible to determine which is the upper end and which the lower end of the bowel. The calibre of the intestine is also too much reduced and the edges of the intestine form a flap, which, if the bowels have been inverted in position, will act as a valve giving rise to more or less, often complete and fatai obstruction. It is also necessary to separate the mesentery from the invaginated and inserted portions of the bowels, and this may cause some local gangrene from loss of blood-supply.

Reybard's method wat particularly adapted to the closure of intestinal wounds with loss of substance. A thin piece of wood was inserted into the intestine, large enough to overlap the edges of the wound To the centre of this was attached a double thread, each end of which was passed through the abdominal wall at one side of the external opening, and the bowel then drawn firmly against the wall of the abdomen so as to enable it to become attached, and thus close the wound.

This method, like that of Palfin and other operators who insisted upon the necessity of fastening the bowel in some manner close to the abdominal parietes, had the advantage of giving the best chance, should union fail to take place, for the formation of an artificial anus, or a localized abscess by means of peritopeal adhesions.

Undoubtedly when union of the intestinal wound did occur after these operations it was because the serous surfaces had been well brought together, but that this was the great essentia , none of the operators up to the time of Lembert had recognized. He, as already mentioned, was the first to discover the fact, since abundantly proved by experiment, that inflamed serous surfaces when in contact tend to unite with great rapidity. A serous and mucous coat will not unite,

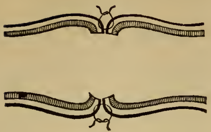


Fig. 1.

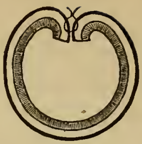


Fig 2.

and mucous surfaces heal together but slowly. Lembert, therefore. made his suture so as to give the best opportunity for this adhesion of serous surfaces. Figs. 1, 2 and 3, in which the suture includes only the serous and muscular coats, illustrate the manner of making this suture.

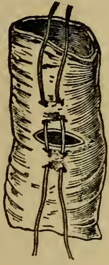


Fig 3.

As readily seen, the edges of the wound are always nicely inverted when the stitches are drawn together, Lembert used the interrupted stitch. Numerous modifications of this suture have since been made, and from among them the operator of to-day must make his choice.

Before considering the modifications of Lembert's suture, it will be interesting and possibly of value in connection with emergency cases, to speak of a few methods in which Lembert's principle has been applied without the use of sutures, or with but slight aid from them.

Dedan's ingenious apparatus for uniting completely divided intestine consisted of three rings of silver or tin. Two of these were similar and of a diameter slightly less than that of the intestine. The third was equal in length to both the others, but smaller in diameter. The two shorter rings were inserted into the bowel and the ends of the latter invaginated over their inner surface. The third ring was then passed inside of these, so that the divided ends met midway upon it. The whole apparatus was held in place by passing a suture threaded at both ends, first close to the edge of the rings above and through the inner ring, then out again at the edge of the rings below. At each end the needles were now passed in at the point of the former needle puncture, and then up between the outer rings and the bowel to where these rings came together. The needles were finally passed out through the intestine and the suture tied together. The rings were thus held in place and the serous surfaces enabled to unite. After a time the edges of the outer rings cut their way through the portion of bowel included between them, and the apparatus passed off with the stool.

The method of Beranger-Ferand is also very ingenious, and was for the union of transverse or longitudinal wounds. Two thin pieces of cork were cut into prismatic shape with a width of about six mm., a thickness of two mm., and a length slightly greater than that of the wound. Small insect-pins were passed through these, their heads being covered in with sealing-wax. One of these pieces was introduced into the bowel and the pins passed through the edges of the wound on one side about two or three mm. from its border. The other piece was placed in a similar manner on the opposite side. The edges of the wound were then inverted and the two pieces pressed together. An additional safeguard to their separation may be made at either end by inserting a piece of bent wire, and, after the two pieces have been united, pressing this in from the outside. The wound was thus held together and the serous surfaces allowed to unite. The portion of bowel included between the pieces of cork soon ulcerated through and the apparatus passed off with the intestinal contents.

Amussat passed the ends of the divided bowel over a piece of cork deeply grooved in the centre. The ends were made to overlap slightly and the bowel then tied tightly down into the groove with a ligature. This also accomplished the desired result, and after a time was discharged from the bowels.

Many other methods of suture, such as those of Gely, Emmert and other operators, are ingenious and interesting, but as they are no longer of much practical value, their description will be here omitted.

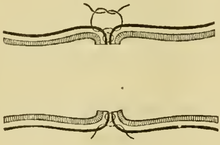


Fig. 4.

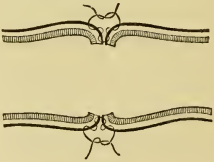


Fig. 5.

Probably the first change in Lembert's style of suture was that made by Czerny, who proposed to unite not only the serous coats, but the edges of the wound as well. This he accomplished by using a double row of sutures (Fig. 4). This forms a sort of "Etage Naht," and is certainly, aside from the time it requires, a valuable adjunct, as it serves to protect the Lembert stitches by keeping the intestinal contents away from them. When this suture is made with the Kürschner stitch for the first row it does not require much time.

Gussenhamer then thought of doing this all with one suture and made his figure-of-eight stitch (Fig. 5). This is an ingenious but complicated suture, and has the objection that should the lower portion ulcerate through, the whole stitch would become loosened and thus give rise to the escape of intestinal contents.

The Kürschner suture is a continuous one and (Fig. 6) is made by tying the first stitch and then proceeding as with any continuous suture, puncturing the intestine from within outwards, and fastening the whole when completed with a seamstress's knot. This is a very rapid and simple suture and closes the wound nicely. Nussbaum prefers it to all others, and says: "The simple interrupted suture like Lembert's is very much harder to make, the needle must be laid aside ten or twenty times and the scissors taken in hand, while with the Kürschner suture this need be done but twice."

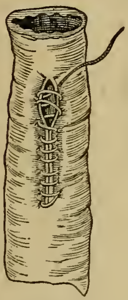


Fig. 6.

The remaining methods of intestinal suture which I am to describe are of very recent date, and have been used altogether for uniting the ends of resected intestines.

First, we have the method of Neuber used in operating for the cure of artificial anus and made as follows: A circumscribing incision was made through the skin about the anal orifices. The skin was then dissected away from the fascia beneath, and the edges of the flaps thus formed united with a continuous suture so as to prevent the escape of intestinal contents. The ends of the intestine were then loosened and brought down (Fig. 7). The abdominal wound was now closed by provisional sutures, as recommended by Madelung, so that just enough room remained for the ends of the intestine drawn through the wound (Fig. 8). The intestine thus constricted closed the abdominal wound, and prevented the entrance of fæcal matter into the field of operation. The bowel was now held by digital compression, and, after removing a sufficiently large piece of mesentery and tying the bleeding vessels, the ends were cut squarely off (Fig. 8). Neuber now sutured the ends of the bowel together over a piece of decalcified bone tube.

This tube was about two cm. in diameter, and turned so as to bulge in the central portion and have a deep groove in the middle line (Fig. 9). The sutures were made as follows: First, before inserting the tube, the ends of the bowel were united by two or three interrupted sutures, taken at the mesenteric insertion. The tube was then inserted and the ends of the bowel drawn closely together over it. The ends were now united by a number of Lembert stitches (Fig. 10 *a*). The intestine was then drawn down into the groove by means of a constricting "suture" or ligature (Figs. 10 *b* and 9), and finally, in order to get a most exact union of serous surfaces, still another row of interruped Lembert stitches was taken about one cm. apart (Fig. 10 *c* and Fig. 9). Thus finally (Fig. 10 *c* and Fig. 9) there was, in the depths of the groove the first row of interrupted sutures, then the constricting "suture" or ligature, and finally an outer row of interrupted sutures.

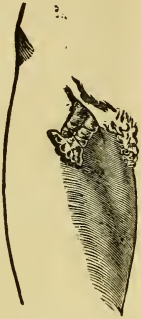


Fig. 7.

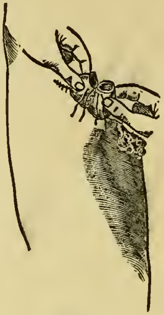


Fig. 8.

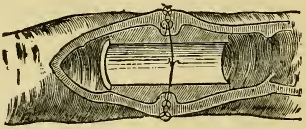
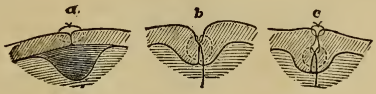


Fig. 9.

As advantages of this method Neuber claims, first, the ease with which it is performed, it being much easier to sew upon a firm foundation than otherwise. Secondly, the wound of the intestine is protected by the tube from contact with the intestinal contents. Neuber, to obtain the best possible asepsis, powdered a little iodoform into the groove. Thirdly, the tube maintains a free passage for the intestinal contents, which is not always the case with some of the other methods, where at times the collection of fæcal matter above the wound owing to more or less stenosis forms a serious and even fatal complication.



Fig, 10.

The intestine has been united in this manner after resection at the Kiel clinic three times, twice by Neuber and once by Schlange, and each time with success. Experiments upon animals have shown that after from four or five days the decalcified tube disappears. In the cases at the Kiel clinic careful examinations of the dejections failed to give any trace of the tubes.

Professor Madelung, of Bonn, having in view the fact, well established in experimental pathology by Lister, Maas, Tillmans, Rosenberg and others, that pieces of living tissue or other substances, when made aseptic, could be placed in the peritoneal cavity, and there become imbedded or encapsuled, and gradually absorbed without causing suppuration, devised what he calls the cartilage-plate suture. This suture is made as follows: The costal cartilage of a young calf is first cut in thin slices, which should have about the thickness, Madelung says, " of sections made by beginners in microscopic work," and the circumference of a small lentil, from four to six millimeters. These slices are prepared in the same manner as antiseptic silk. The ends of the bowel are first united with a Kürschner suture. A No. 12 needle is now threaded so that its eye comes at the middle of the suture. The ends of the suture are then tied together in a double, or better, a treble knot. The needle is now passed through the centre of one of the cartilage-plates, and the same drawn through until the knot comes firmly against the plate. With the suture thus prepared, the needle is passed in the usual manner through the sero-muscular layer of both ends of the bowel, and then through a second cartilage-plate of the same size as the first (Fig. 11). The suture is now cut off close to the needle, and again tied in a treble knot firmly down to the second plate (Figs. 11 and 12).

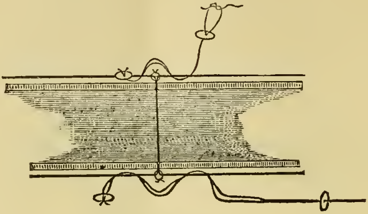


Fig. 11.

With the use of this suture, Madelung claims that it is possible, with a much smaller number of stitches, to obtain sufficient contact of the serous surfaces. Circular cutting through of the tissues by the suture is here avoided. If the wound of the serous coat made by the needle is enlarged a little by drawing upon the suture, the cartilage-plate will cover in this opening. Madelung hopes that his suture will not be looked upon as too complicated, and affirms that it is simple and practical in its application.

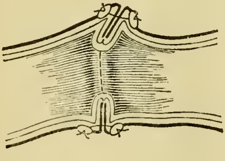


Fig. 12.

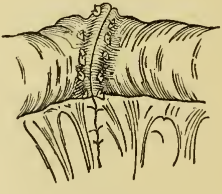


Fig. 13.

Mr. Bishop, of Manchester, England, has recently devised a very ingenious suture, a full and illustrated description of which will be found in last year's January number of "Braithwaite's Retrospect." This suture is unnecessarily complicated, and presents no particular advantages. Besides, being made in a single row, it should not involve the mucous coat, which it does. It has only been used in experimental operations.

So much for the different methods of suturing the intestine. From the first Lembert suture made with the single interrupted stitch, down to the most recent of the after-coming methods, which I believe to be those of Neuber and Madelung, all have been sufficient to secure, with varying frequency of success, union of the ends of a divided intestine, or the edges of transverse and longitudinal intestinal wounds. No method has yet been devised which stands preëminently above all others. That one is the best which secures and maintains the most perfect and undisturbed contact of the serous surfaces with the least reduction of the intestinal calibre, and it will be a matter of personal choice and experience in deciding which one best answers these requirements.

The various forms of intestinal suture may be applied to any part of the alimentary tract from the œsophagus downwards, but their most frequent application comes after resection of the pylorus, or some part of the large or small intestine. This may be for the cure of (1) anus-preternaturalis or fæcal fistula; (2) gangrene following incarcerated hernia or intussusception; (3) malignant growths; (4) where adhesions to an abdominal tumor are so firm as to necessitate removal of a portion of the intestine or ligature of its blood-supply; and (5) stricture due to ulceration or other causes. Recently a new application has been found in Wölfler's operation of gastro-enterostomy, a procedure similar to the method illustrated in the "Surgical History of the War of the Rebellion," for uniting two simultaneously-wounded knuckles of intestine, with Gely's suture. Wölfler's operation, suggested to him by Nicoladoni, during a pylorus resection, where, on account of too extensive disease, the pylorus could not be removed, consisted in taking the loop of small intestine nearest the stomach, and, after making a longitudinal opening in it, and a corresponding one in the stomach, a finger's breadth above the gastro-colic ligament, uniting the two by sutures, this being done instead of forming an intestinal fistula.

Let us now consider in detail the manner of making the intestinal suture. As there are now very few cases of intestinal lesion, which, if they lead to suture at all, would not be best treated by total resection of the affected portion, I will speak of the suture as applied in the latter operation. It is to be hoped that it is no longer necessary to urge the strictest adherence to the rules of antiseptic surgery, and also that any surgeon who will take upon himself the responsibility of such an operation, should it come as a case of emergency, has always in readiness all of the necessary materials, such as antiseptic sponge material, silk, catgut, needles, etc. It is also necessary to have practised the operation a number of times on post-mortem material, or in experimental operations. The operation should never be hurried; within reasonable limits, the amount of time taken, one hour to one and one-half hours, is of no great importance. As far as the success of the operation as such is concerned, the greatest danger lies in failure to apply the stitches perfectly. If the operation is done in emergency, there is, of course, no chance to get the bowels into the most favorable condition, namely, as empty and antiseptic as possible, but where the operation is a premeditated one, this should always be done. The stomach, when involved, must always be thoroughly washed out, and other parts, when possible, well irrigated.

After the intestine has been drawn out of the abdominal wound, it may be held in position, either by applying provisional sutures to close the wound about it, as done by Madelung, or in the usual manner by the fingers and flat sponges or napkins placed beneath. To close the wound about the intestinal loop by Madelung's method, a number of sutures are taken through the abdominal parietes just as they usually are at the end of an operation, and after drawing the wound together tied in a beau-knot so as to be loosed at the end of the operation, when the bowel is to be replaced. They are then used with the additional necessary ones to close the abdominal wound. This method has also been used by Veit, of Bonn, in ovariotomies to prevent the protrusion of intestines while tying the vessels in the pedicle.

Now, when the intestinal loop is fixed, the bowel must be compressed above and below the portion to be resected, so as to prevent the escape of intestinal contents into the field of operation or the abdominal cavity. This may be done by (1) digital compression, (2) long-bladed forceps with or without covering, (3) provisional ligature with stout catgut or silk, (4) various clamps devised for this purpose.

Rydygier's clamp consists of two flat pieces of iron notched at the ends and closed in rubber-tubing. They are fastened with rubber-bands. Makins' clamp is a large bull-dog forceps with a screw closure, the blades to be covered with rubber-tube. I have had made a clamp similar to the Dupuytren-Blasius, one for the cure of artificial anus (Fig. 14). Its advantages are supposed to be that the blades, which are also to be covered with rubber-tubing, are kept parallel, and the pressure thus made equable. The screw is so arranged, by being weak and not bringing the blades entirely together, that too great pressure cannot be employed. When polypus forceps or other clamps closing at an angle are used, the pressure at the inner part is apt to be too great and give rise to sloughing.

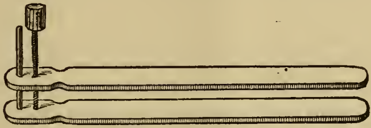


Fig. 14.

Digital compression is very great, but in a long operation the fingers are apt to become very tired, and are, above all, much in the way.

A provisional ligature passed through the mesentery and around the bowel, closes the canal very thoroughly, but if tied too tightly will give rise to gangrene. It also wrinkles the bowels more or less, which may at times be an inconvenience.

After having closed the bowel in some manner, the next step is either to resect the desired amount of intestine with its triangular piece of mesentery and then tie the vessels, or tie the vessels first, and then remove the intestine and mesentery. It seems to me it is much better to first tie the vessels and then remove the bowel with its mesentery. The vessels going to the bowel can be plainly seen or felt, and the elimination of the blood-supply made with such exactness that very little, if any, bleeding will occur after the intestine is divided. The field of operation is thus kept much cleaner. The only objection to this method is, that it is said to require more time, but the difference, if any, is very slight, and not important.

One important point must now be remembered, and that is, to resect, no matter how much this may increase the difficulty or length of the operation, all intestine which has had its blood-supply removed. This, as already stated, is always easily determined. Operations which might otherwise have been brilliant in their results, have ended fatally through neglect of this point, the post-mortem examinations having shown that gangrene of intestine thus deprived of its blood-supply always occurred.

After the bowel has been resected any contents which may escape from the portions beyond the clamp, must be carefully wiped away and the ends thoroughly cleansed before commencing the suture. At this point, if no clamps have been used, it can be seen how difficult it is to distinguish the upper from the lower end of the bowel, for if both contain ingesta they will escape in about equal amount from either opening. The character of the escaping contents is an indication as to what part of the intestinal tract has been opened.

The intestines are now to be united according to the suture employed. The edges of the protruding mucous membrane may now be trimmed off, but this I think inadvisable and of no particular benefit. What seems to me to be the best of the simple sutures is, practically, Czerny's, but differs from it in having the first row made with a continuous suture. The first row may be made with the Kürschner suture. For the outer row I used in an experimental operation a suture, which I do not find described, but which may be called a continuous Lembert suture. This was what I understood to be Kürschner's suture, but that suture, as described and figured by Nussbaum, perforates all the coats from within outwards. The continuous Lembert suture is simple and a great saver of time. It is merely the Lembert stitch made with a continued, instead of interrupted, suture.

If the material for Neuber's or Madelung's suture is in readiness, they, too, might be used, and from the success which has thus far followed them, no failure of union having occurred, they are probably as certain, if not more so, than any of the others.

Bishop claims as advantages of his suture the fact that the knots are all made on the inside, and after ulcerating through, the stitches pass off with the stool. But the desired object to-day is to have the stitches become encapsuled or absorbed, and not cut their way into the bowel. This should be the case with one row at least.

In making the suture it is always best to begin at the mesenteric insertion. This is the most difficult part to unite, as the peritoneum over the mesentery is apt to tear away. If this occurs stitches may be later taken, outside of those that tear away. It is much better to hold the folded intestine gently between the fingers and sew with a straight needle and without forceps or needle-holder (Fig. 15). The intestine is thus injured as little as possible, and the suture, by avoiding the constant change from forceps to needle-holder, and *vice versa*, made more rapidly. In pylorus and other operations involving thicker parts, forceps and needle-holder should be used. The needle should be introduced so as to leave, in making a single row suture, two or three mm. of intestine beyond the needle puncture nearest the wound border (Figs. 1, 2 and 3). Three or four mm. should be lifted upon the needle each time in sewing (Figs. 3, 4 and 5), and from the thickness of this portion, which can be well judged, it can be seen how much of the intestinal wall is being included in the stitch. The suture is now continued around the bowel. The stitches should be taken very close together, two or three mm. apart, as what may appear to be close stitches in the contracted bowel, will, when there is distention, as with flatus, be perhaps quite far apart. When this suture is ended it should be thoroughly inspected, and any point where good apposition is doubtful, or where the suture has torn away at all, reinforced with one or more extra single stitches. The edges of the mesentery should then be united with a few interrupted sutures. After removal of all clamps and other accessories to the operation which may have been placed about the bowel or elsewhere, the intestine is carefully cleansed and dropped back into place. The abdominal wound is then united in the usual manner.

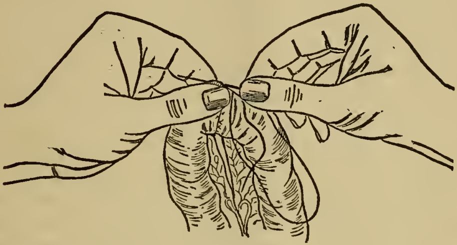


Fig. 15.

The needles used should always be plain, straight, round sewing needles and of the smallest size. A No. 12 English Pearl sewing needle is what is generally used, threaded with the finest conjunctival silk or Japanese silk twist. A No. 10 or 11 needle seems to me to be sufficiently small and is somewhat more convenient to use on account of its length. The finest catgut may also be used, but it is less pliable, and above all requires a much larger needle, and therefore necessitates a larger puncture wound. The suture may be threaded while dry, and then disinfected. This is done by tying the ends of the threads together and holding the needles in forceps or otherwise, and then boiling them one hour in five per cent. carbolic acid solution. (Czerny's method). If it is desired to keep them in readiness they may be placed in alcohol where the needles will not rust. Rydygier, in a large number of experimental operations, always used catgut, and never failed to get good results in cases of simple resection. But aside from the objections already made to catgut, is the additional one that should suppuration occur about the wound, or pressure come from fæcal masses moving down from above the wound, the silk would be there to resist their tendency to separate the freshly united surfaces, long after the catgut had disappeared. The antiseptic silk becomes readily encapsuled and may be sewed or tied in anywhere. In order to become encapsuled it must of course remain antiseptic, and since stitches which perforate the mucous membrane must absorb more or less of the intestinal contents, they should, it seems to me, never be taken unless it is desired to have them cut their way into the bowel. In addition to this, such stitches make a puncture wound through the wall of the bowel, from which fluid contents may escape into the peritoneal cavity.

I have already stated that any disease or injury of the bowel, excepting slight wounds, where intestinal suture is needed, would probably be best treated by total resection of the affected portion and union of the divided ends. This I hold to be so from the fact that other operations necessarily lead to a large degree of stenosis at the point of suture, while in uniting the ends of a resected bowel, the largest possible calibre is obtained. This may be still increased by adopting a method advocated by Madelung and Weber of dividing the ends of the bowel obliquely so as to increase the room for passage at the point of union.

From the nature of the intestinal blood-supply the edges of the bowel after resection are sure to have an abundant source of nourishment, and therefore, when properly sutured, to unite with certainty.

Finally, let us consider briefly the value of this operation. Statistics are of but little weight in this connection, as many of the early operations which were fatal in their results, owing to an undeveloped technique and imperfect or no antiseptic precautions, would have been followed in later years and to-day with success. This, I think, will be well seen in an analysis of seventy-three cases which had been collected up to April, 1881, by Prof. Madelung.

All of these seventy-three cases were resections, that is, complete division, with removal of more or less of the intestine, from a few inches up to 2.5 meters, as in Körberle's case.

Twenty-nine of these seventy-three cases resulted fatally, and as follows:

Fifteen died before the end of twenty-four hours, and one other case was probably as rapidly fatal, but owing to incomplete report this is not certain.

One death occurred on the operating table from the entrance of vomitus into the trachea.

Death never followed after the thirteenth day.

Death was due in one case to embolism of the pulmonary artery from an old venous thrombus of the thigh, and occurred four days after the operation.

One patient died from delirium potatorum, and an insane patient from œdema of the brain.

Twice death was due to other simultaneously received wounds.

In six cases peritonitis had already begun at the time of the operation, and was the cause of death.

Three deaths are referred to "wound shock" and inanition marasmus.

One death was caused by stenosis of the intestine, due to a pseudo-ligament below the point of suture.

Five times fatal peritonitis and acute sepsis developed immediately after the operation. In three of these cases fæcal matter escaped into the abdomen during the operation.

In seven cases death occurred during the period of convalescence, peritonitis following the escape of fæcal matter through the resection wound. Twice this escape of fæcal matter was due to incomplete resection of the gangrenous portion of the bowel, and in the other five to failure to completely close the wound with the suture.

Of these seventy-three recorded operations, fifty two, with thirty good results, were performed in the years from 1877 to 1881, and the successful operations in this period are, without exception, those of German, Swiss and Austrian surgeons; and Madelung says: "We have a right to be proud of the blossom to which this branch of operative surgery has come in our day, but we must, nevertheless, understand that only the first step has been made on the new way."

There is no longer any doubt as to the safety of opening the peritoneal cavity, granting, of course, that it is done in the proper manner. The peritoneum, far from being a membrane of the most vulnerable sort, as it was formerly regarded, bears with the greatest tolerance an astonishing amount of cutting, burning, tearing and manipulation. From the time when the surgery of the serous cavities was limited to a timid approach to the opening of some of the smaller joints, it went on to the free drainage of the chest for the cure of empyema; and so it will be, if it is not already, with the surgery of the abdominal cavity.

Numerous cases of peritonitis, where the parts have been found "glued together and bathed in pus," have been treated by abdominal incision and thorough washing out of the abdominal cavity with large quantities of water, and have made good recoveries. At our last meeting Dr. John Homans reported a similar case.

To two influences, however, the peritoneum is greatly susceptible, and they are septic absorption and loss of heat. Unlike the skin, naturally adapted to a moist, evaporating surface, from which, when exposed to the air, the loss of heat is constant and rapid. Wegner, in his valuable investigations and experiments, found, in a medium-sized woman, the area of the skin-surface to be 17,502 sq. cm., while that of the peritoneum was 17,182.

By exposing the peritoneum to rapid loss of heat, a reflex paralytic influence is exerted upon the heart, and unless warmth be rapidly applied, death occurs from collapse.

If an ice-compress is laid upon the exposed intestines of a dog, the heart instantly ceases to beat, while, as Wergner found, a stream of warm vapor may be directed upon them for seven or eight hours without injurious effect.

Wegner further found that animals into whose peritoneal cavity he had injected large quantities of salt solution at the body temperature were never injured by the procedure, but moved about in as lively a manner as ever.

The capacity of the peritoneum for absorption, and, therefore, for infection, is indicated by the fact that in one hour fluid equal in quantity to eight per cent. of the body weight may be taken up from its cavity, and in two days an amount equal to that of the entire weight of the body. A quantity of chloral solution injected into the peritoneal cavity exerts an almost instantaneous soporific effect. The large peritoneal area and the peristaltic movements are also movements aiding the rapidity of absorption.

These facts present their own argument, and are clear indications of what it is necessary to avoid in peritoneal operations.

Let us, then, hope that when occasion arises for the application of intestinal suture, no traditions in regard to the dangers which it involves will prevent its being used according to the means of to-day, and many lives thus saved or made comfortable. Without exception, when done with no technical failure, the operation has, in the last few years, been successful, and where death has occurred, it has been not because the intestinal suture failed to accomplish its object, but owing to other conditions involved in the nature of the case.

In conclusion, let me say that to the consultation of various works, mostly recent German ones, I am indebted for the majority of ideas and figures presented in this paper.—*Boston Medical and Surgical Journal.*

Iodoform Poisoning.—Dr. E. G. Cutler, of Boston, after a very complete paper on the subject of iodoform poisoning, in the *Boston Medical and Surgical Journal,* advises: (1) Fresh wounds or unhealthy or tuberculous surfaces are the only ones fitted for the application of iodoform. (2) Only a thin layer or small amount of iodoform is to be applied. (3) When granulations appear healthy, iodoform should be omitted and some other non-poisonous substance substituted. (4) At the first symptoms of poisoning, or coincidently with the original use of it, compounds of the alkalies and vegetable acids are to be given by mouth at frequent intervals, as acetate of potash. If severe symptoms supervene, transfusion with common salt solution is to be resorted to, and the wound is to be washed free from iodoform with pure water and an alkaline carbonate solution, and afterward powdered magnesia is to be dusted on.

ON THE MODE OF CONDUCT IN A CASE OF RETENTION OF PLACENTA AFTER ABORTION.

From a Lecture by P. Budin, Professor agregé to the Faculty of Medicine, Paris, Accoucheur to the Charité.

[Translated from the *Progres Medical* by Dr. W. H. Wenning.]

What is to be the conduct of a physician in cases of abortion, when the fetus has been expelled and the secundines remain in the cavity of the uterus? This question has been a theme for considerable discussion in the last years. Two complications have been observed as arising from the retention of the secundines, they are: *hemorrhage and septicœmia.* A certain number of accoucheurs, who look upon these complications as frequent, recommend constant intervention, when the adnexa have not folllowed the expulsion of the fœtus in the course of several hours. The methods of procedure recommended by them are numerous and varied. Some introduce the finger into the uterus and seek to detach, break away or remove the placenta; others resort to the forceps for the better accomplishment of this purpose; others again employ the curette, either dull or sharp. Mundé, for example, uses only the dull curette, and also recommends the avoidance of a force which might injure the woman. But the curette with cutting edges also has its partisans, to scrape the walls of the uterus and to withdraw the debris of the ovum. Lately, besides curetting with the sharp or dull instrument, the additional use of a tampon has been resorted to. In a certain number of cases the tampon is sufficient without a previous recourse to the curette.

It is, however, not always easy to operate within an uterus the dimensions of which are so small in the beginning of pregnancy, and whose cervical canal is hardly permeable; it may become necessary to practice dilatation, either with the finger or by means of mechanical dilators, as the sponge, laminaria or tupelo tent. To facilitate this method, some physicians seize the neck with a pair of vulsellum forceps and draw it down to the vulva. In short, all means are resorted to, and these means vary according to the nature of the case and the fancy of the physician, for the purpose of removing the secundines from the uterine cavity.

Is this mode of conduct really rational and necessary? It seems to us that two things must be shown to render it justifiable:

1. That retention of the placenta is really a source of frequent accidents.

2. That all digital and instrumental manipulations to which recourse are had offer no danger.

First.—Is the retention of the placenta following abortion really a source of frequent accidents? We have collected all the observations made in our service at the Charité from the month of May, 1883, to May, 1886, and in addition to this, with the permission of M. Tarnier, have included all the cases of abortion which have been attended at the Maternité from July, 1883, to July, 1886. The following are the results:

Out of a total of 210 cases (57 at the Charité and 153 at the Maternité), there was 46 times retention of the placenta, giving a proportion of 22 to 100. The after period was habitually uncomplicated after complete abortion, and the morbidity was almost nil; but what were the observations in cases of retained secundines?

At the Charité there was never any hemorrhage when the delivery was slow. At the Maternité only twice was there slight hemorrhage. which came on at the moment of expulsion of the placenta.

Of 24 cases of retention observed at the Maternité, 21 presented no accidents, the puerperal state being normal. Three presented the following particulars:

One woman in whom the placenta remained in the uterine cavity, showed some signs of infection, which rapidly disappeared after intra-uterine injections of Van Swieten's fluid; another case, a victim of criminal abortion, who was admitted to the hospital with an elevated temperature, recovered rapidly; finally, in another patient, who had bronchitis and fever before her admission to the hospital, the placenta was expelled entirely in about sixteen hours. The offensive lochia disappeared completely after uterine injections, but the fever and all other symptoms which had existed at the beginning, increased, and the patient died from pneumonia fourteen days after the abortion.

To recapitulate, out of 210 cases of abortion, there were 46 cases of retention of the placenta. Accidents following this retention have been rare, only one woman died, and it is doubtful if her death could be attributed to septicæmia.

Hence when women are placed in conditions favorable for asepsis, retention of the placenta is not so frequently a source of accidents as has been pretended.

Second.—Are all the digital and instrumental manipulations resorted to for the extraction of the secundines completely free from danger?

We will only ask those interested in this question to read carefully the observations which have been made up to the present day. They will see that the finger alone is generally insufficient in detaching the placenta and removing it entire. Forceps are managed with difficulty in the interior of the uterus, and often they will leave the remains of the secundines behind them. To the use of the curette, and especially the sharp curette, has been attached the chief blame as founded upon facts. P. Mundé says that they appear powerless in detaching the remains of a placenta situated in one of the horns of the uterus. In spite of a careful scraping of the uterus portions of the placenta have been left behind in the interior of the uterus, as the observations of Skjelderup and of Doleris have shown. In a case referred to by Moses, in which the uterus had been well scraped, washed and cauterized with perchloride of iron, he was not a little surprised to find next day expelled "a fœtus without legs, 6 to 7 centimetres in length, which, in spite of the use of the sharp curette, had remained in the uterine cavity without giving rise to any other symptoms." The curette acts blindly. It is also dangerous; in cutting healthy mucous membrane it opens the gates for infection, says J. Veit; a hemorrhage persists which is often very hard to arrest, of which Moses has cited a striking example. Finally, when one is obliged to have recourse to dilatation, it is not always free from danger: Schwarz, of Halle, has reported two cases of considerable laceration of the neck, one of which extended up to the broad ligament.

Thanks to the use of the antiseptic method, the results have not been so bad as one would believe; however it may be seen that these so-called preventive measures place the woman at the brink of septicæmia and possible hemorrhage, abundant loss of blood being not very rare. In one of the cases reported by Moses cauterization with the perchloride of iron was not sufficient to arrest hemorrhage, as the patient fell into collapse and he had to use the tampon. Not all patients have escaped septicæmia: Moses has noted an endometritis in four cases, and Mundé pelvic cellulitis; Fehling has observed three instances of grave pelvic abscess; Consentino and P. Mundé have observed death supervene in spite of treatment, or it was even due to the treatment itself.

Hence for our part, contrary to the opinion established by certain authors, the retention of the adnexa of the fœtus is only rarely the origin of complications, if recourse be had to antiseptics. On the other hand, of the different methods of intervention which have been counseled and put into practice, some are insufficient, others dangerous. Hence we never deem it necessary to interfere when, the fœtus having been expelled, the placenta remains in the uterine cavity. One may content himself with the observance of cleanliness and the use of antiseptic vaginal injections two or three times a day, and the secundines will be expelled spontaneously.

But when complications arise, grave hemorrhages or the phenomena of septicæmia, either because no antiseptic precautions have been taken or because unsuccessful attempts at extracting the secundines have been made, which often favor the rise of these accidents, what ought then to be done?

Without desiring to enter into the details necessary for each case in particular, we will resume in a few words the proper mode of conduct:

Against severe hemorrhage the tampon is the means par excellence, and the only one which is truly efficient; and when we speak of a tampon we mean one made of cotton or charpie, previously rendered aseptic by being immersed in a solution of carbolic acid, corrosive sublimate, etc.

If the phenomena of septicæmia exist in the beginning, vaginal antiseptic injections should be made every two hours or every hour. They often suffice and the complications cease entirely. If at the time of the first visit the symptoms of infection are very grave, or if these accidents do not yield readily to vaginal injections, recourse should be had to intra-uterine aseptic injections, employing a solution of corrosive sublimate, 1 to 2000 or 1 to 3000, or carbolic acid, 2 or 3 to 100, etc.

In making these intra-uterine injections care should be taken that no obstacle opposes the flow of the injected fluid; a ready flow can be secured by the use of the horse-shoe-shaped sound.* In this manner the cavity of the uterus is, in all probability, rendered aseptic, a result rapidly attained, as evident from the cessation of the fetid character of the lochia and the fall of the temperature. General treatment should not be neglected, and we should especially insist on the administration of the sulphate of quinia.

This method, practiced at the Maternité by M. Tarnier, and which we have followed at the Charité, has given the results mentioned above. It seems to us difficult to improve upon them.

It ought not to be implied, however, that this is expectant treatment, pure and simple, to which we have recourse. The old expectant plan, good as it was, has come down to our day, improved, thanks to vaginal and intra-uterine antisepsis. This treatment has thus been benefitted by the improvements which have been gradually made upon it.

We will add that this method—expectant and antiseptic, can be followed by physicians and midwives, which is no small advantage.—*Obstetric Gazette.*

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*Note by the Translator.—This sound, the invention of Budin, is a curved tube in which there is a hollow excavation, so that a cross-section of this instrument resembles a horseshoe. The fluid passes into the uterus through the hollow tube and is returned from the uterus along the excavation or gutter on its surface made by the depression.

PARASITIC BACTERIA AND THEIR RELATION TO SAPROPHYTES.

By Theobald Smith. Read before the Biological Society of Washington, D. C., December 11, 1886.

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It is a curious fact that those bacteria which are strictly parasitic, and which have not yet been cultivated in nutritive media, or only with considerable difficulty, cause diseases which are very slow in their progress, often lasting for years and frequently checked and cured. Tuberculosis, syphilis and leprosy are illustrations of this fact. On the other hand, the diseases which are produced by bacteria that thrive in artificial media are usually quite rapid in their course. The conflict in the latter case is much fiercer and more quickly decided. In other words, the bacteria are more virulent. The better adapted the parasite becomes, the more compatible will it be with the host and the less capable of carrying on an independent existence. It is for the interest of the more strictly parasitic forms that their host live as long as possible. This is not necessarily so with those species whose life in nature may continue more or less independent of a parasitic existence.

The more perfect parasitic bacteria, manifesting their presence in very slowly progressive maladies, usually reside within the protoplasm of the cells, where the feeble irritation leads to a hypertrophy and then to a gradual destruction of the cell itself. The bacteria are probably taken up in the same way in which the amœba takes in solid particles. The cell endeavors to destroy them in this way, but their persistence within the cell-protoplasm indicates that the struggle has resulted in the victory of the parasite, which even finds the battle-ground a convenient place of abode. There are one or two rapid diseases, such as mouse septicæmia, in which this intra-cellular habitat of the microbes is always observed.

Another interesting feature which they share with entozoa is their limitation to certain species of animals. Some are peculiar to one species, others may thrive upon several. This susceptibility of certain animals to definite pathogenic germs is so constant a phenomenon that it has now become an indispensable means in the diagnosis and differentiation of bacteria, and in conducting investigations upon obscure points in the life-history which are of direct practical value. In other words, the smaller animals are to the pathologist what chemical reagents are to the chemist.

I have already stated that there are many entozoa, inhabiting the tissues of their host, which do but little harm, and which may measure their parasitic existence by years, while a few, such as *Trichina spiralis*, are now and then fatal. Corresponding with these gradations in destructive effect there are similar gradations of virulence among bacteria. Some produce only local disturbances ; they are speedily destroyed and eliminated. Among these are the microbes causing suppuration. Others destroy organs and tissues very gradually, and are indirectly fatal by exhausting the vital energies or breaking down some organ necessary functionally to the processes of life. Among these may be mentioned more particularly the tubercle bacillus. Still others may cause death from within a few hours to weeks after their invasion. These include the microbes of septicæmia, cholera, typhoid fever. In general, however, the tendency of bacterial parasites is eminently destructive. The chemical poisons formed during their growth irritate and finally destroy the animal cell. If we pass from a consideration of the biology of these micro-organisms to the diseases of which they are the cause, a broad field of interesting facts lies before us, as instructive and suggestive to the biologist and the student of nature as to the pathologist and the practical physician. I can, however, merely glean a few facts which may serve to illustrate the relation of epidemics to the life-history of bacteria.

There is a certain group of diseases called miasmatic, because the poison seems to come from the air and the soil. With the light shed upon this subject in recent years, the micro-organisms, presumably the cause, live in the soil as their natural habitat. This class would include all strictly endemic diseases, since they cannot be carried at will to localities free from them. The cause, residing in the soil, must have certain conditions necessary to its life, and unless these are found in new localities, the disease will not take root. Though malaria is reaching out into new territory, we have never yet heard of a quarantine against its progress.

Another group includes maladies only transmitted from one subject to another. They are strictly contagious diseases, corresponding to the strictly parasitic bacteria, which cannot multiply outside of the animal body.

A third group, intermediate between these extremes, possesses, in a way, the characteristics of both. The micro-organisms may live both as parasites and saprophytes; and being capable of multiplying wherever the proper pabulum exists, the possibility of rapid diffusion, and hence of great epidemics, is readily conceivable. It is believed by some that for most of such germs a sojourn in the soil is a necessary preparation for the parasitic stage. Pettenkofer regards cholera and typhoid not contagious, but insists that the germs must first undergo some unknown changes in the soil before they again become capable of inducing disease, Hence the spread of epidemics depends as much upon certain external conditions as upon the presence of the agents themselves. This is controverted ground, however, and most authorities to-day are inclined to consider the air, the soil and water as simple vehicles for the spread of disease.

There still remain many obscure problems concerning the movement of epidemics, but their solution does not seem so far away, as a very firm foundation has been laid for future observations. This has been constructed from the life-history of micro-organisms. The application of the principles and fundamental facts of biology to the elucidation of the causes of disease and its prevention is once more brilliantly vindicated. Disease is no longer the mysterious, personified entity of the past. It has been brought within the domain of laws which govern all life upon the earth.—*American Naturalist.*

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SUPPOSED ACTIVE INGREDIENTS OF POPULAR "PATENT PREPARATIONS."

"Neuraline," aconite with chloroform and rosewater. "Morison's Pills," aloes and colocynth. "James' Fever Powder," antimony. "Anti-Fat," Fucus vesiculosus or bladder wrack. "Hunter's Chloral," chloral with syrup of tolu and elder-flower water. "Fluid Lightning," an American application for neuralgia, aconitine, with essential oil of mustard, glycerine and alcohol. "Perry Davis' Pain Killer," spirits of camphor, tincture of capsicum, tincture of guaiacum, tincture of myrrh and alcohol. "Brown's Bronchial Troches," cubebs, conium, acacia, liquorice and sugar. "Lady Webster's Pills," powdered aloes, powdered mastich and petals of red roses in syrup of wormwood. The pills known as "Lady Hesketh's" and "Lady Crespigny's" have a similar composition. "Valette's Pills" contain sulphate of iron, carbonate of soda, honey and syrup. "Parr's Life Pills," aloes, rhubarb, jalap, extract of gentian, oil of cloves, soft-soap, etc. "Halloway's Pills," jalap, ginger and myrrh made into a mass with mucilage. Might give rise to dangerous symptoms if administered to young children or to persons debilitated by age or disease. "Holloway's Ointment," fresh butter, beeswax, yellow resin, vinegar of cantharides, Canada balsam, expressed oil of mace and balsam of Peru or liquid storax. It is said that "no two samples are of precisely the same color or consistence." "Mrs. Winslow's Soothing Syrup," morphia with essence of anise and syrup of balsam of tolu. "Mother's Friend," opium with carminatives. "Indian Tincture," capsicum, cannabis indica, ether and metylated spirit. "Mother Seigel's Curative

Syrup," concentrated compound decoction of aloes with borax, capsicum, gentian, oil of sassafras, oil of winter-green, taraxacum, treacle and rectified spirit. "Reynold's Gout Specific," colchicum. "Blair's Gout Pills," finely ground colchicum corns. "Injection Brou," sulphate of zinc, sugar of lead, laudanum, tincture of catechu and water. "Locock's Pulmonic Wafers," lactucarium, ipecacuanha and squills. "Eau de Fleurs de Lys," "an infallible banisher of freckles," a milky fluid consisting of two and a half per cent. of calomel, a trace of corrosive sublimate and common salt, with water scented with orange flowers. "Eau de Blanc de Perles," an alkaline fluid with a thick deposit of about fifteen per cent. of carbonate of lead, scented with otto of roses and geranium. "Lait de Concombres" consists of soap, glycerine and cotton-seed oil made into a semi-emulsion with rosewater. "Norton's Chamomile Pills," aqueous extract of aloes, extract of gentian and essential oil of chamomile. "Kitchener's Peristaltic Persuaders," probably compound rhubarb pills with a little caraway. "Keating's Cough Lozenges," lactucarium, ipecacuanha, squills, extract of liquorice, sugar and mucilage of tragacanth. "Ruspine's Styptic," a strong solution of gallic acid in spirit of roses, and perhaps a little sulphate of zinc. "Roche's Embrocation," olive oil mixed with oil of amber, oil of cloves and oil of lemons (see *British Medical Journal*, January 5th, 1881). "Holt's Specific" (for whooping-cough), also known as "Hooper's," is said to contain half a grain a tartar emetic in the dose (see *British Medical Journal*), January 5th, 1884). "Cohosh" is actæa racemosa or cimicifuga. "Hamlin Wizard Oil" contains camphor, ammonia, sassafras, cloves, chloroform, turpentine and spirit. "Haarlem Oil" is a mixture of balsam of sulphur, Barbadoes tar, oil of amber, oil of turpentine and linseed oil. "Barker's Poisoned Wheat," for killing birds, owes its poisonous properties to Cocculus Indicus.

Much useful information concerning the composition of patent medicines will be found in Cooley's *Cyclopædia of Practical Receipts*, and in the *Anatomy of Quackery*, by the same author. See also Kilner's *Compendium of Modern Pharmacy*, 1882.—*Medical Register.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., " }

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

ANTISEPTICS IN MIDWIFERY.

The extensive arrangements that have been set out as essentials in preparing for a labor, and in the conduct of the case after the birth of the child, by those of the leaders of thought in medicine who are the adherents of all the doctrines of Listerism, have given rise to much discussion, and the result is in nowise lacking in benefits. It is claimed by these advocates of extreme measures that it is necessary for the room of the lying-in woman to be stripped of all superfluous furniture and be left for her occupancy an almost empty space within the four walls, space only being allowed for the bed and such other furniture as is needed for her comfort. Moreover, her entrance into this chamber must be preceded by scouring the floors, walls and wood-work generally, this to be followed by washings of carbolic acid and corrosive sublimate, and the woman's person is alike to be made antiseptic to fit her to be an occupant of this newly made air.

The physician must subject himself to this cleansing process too, and his nurse must follow his example in the performance of these Listerian duties. The labor beginning, sublimate injections into the vagina, sublimated covering for the vulva in the interims of the examinations, frequent cleansing of the hands of the accoucher, and dippings into sublimate solutions of the hand which he uses, frequent carbolized or sublimate injections and antiseptic dressings for the external genetalia to follow the labor, and the introduction of iodoform suppositories into the vagina to complete the dressings, all make this ritual very onerous. The whole lesson is summed up in these few words, that cleanliness shall be strictly enjoined on the persons engaged in aiding the woman on this trying occasion, and if it may be, as it has been accomplished, without these numerous arrangements, then it is safe to follow in the footsteps of those whose results in midwifery practice compare favorably with those related by the apostles of the newer doctrine. We do not doubt that great good has followed from the introduction of Listerism, and we only wish to object to the claim that all these measures are always necessary. We do not believe that labor and its attendant incidents is to be taken out of the class of normal actions and be placed among the pathological, and we cannot believe that it is necessary to subject the woman whose labor has been normal, to the danger of poisoning by carbolic acid or corrosive sublimate. There lies a safe middle course, and in it safely walk the intelligent physicians, true to their belief and practice that conservatism is the true guide, and extreme methods are only to be used for cases of peculiarly dangerous character.

WE regret to know of the impaired health of Dr. Joseph Jones, of New Orleans. Dr. Jones has long been esteemed and held in honor among the profession of the country, and his study of diseases peculiar to the Southern climate has given him special prominence in this region. He has just issued the second volume of his clinical observations, and, like its predecessor, it is full of instruction. We shall again refer to its contents, and at length. We are glad to add that the doctor assures us his condition is improving, and we shall indulge the hope of his complete restoration to health and to great usefulness.

In our last issue we stated that Dr. John McDonald's term of service as a member of the Board of Health would expire this year. In this we were mistaken. He retires in 1889, and Dr. R. H. Lewis, of Raleigh, who was elected to fill the unexpired term of Dr. M. Whitehead, goes out this year. The members whose terms expire this year and whose places will be filled by election at Charlotte, will be Drs. R. L. Payne, Sr., and R. H. Lewis. The vacancies which the Governor will fill will be those made by the expiration of the terms of Prof. Simmons, Mr. Winslow and Dr. Lyle.

To Arrest Nasal Hæmorrhage.—We take the following practical suggestion of Prof. John Chiene from the *Edinburgh Medical Journal:* "In persistent hæmorrhage from the nasal cavity, plugging the posterior nares should not be done until an attempt has been made to check the hæmorrhage by firmly grasping the nose with the finger and thumb, so as completely to prevent any air passing through the cavity in the act of breathing. This simple means, if persistently tried, will in many cases arrest the bleeding. The hæmorrhage persists because the clot which forms at the rupture in the blood-vessel is displaced by the air being drawn forcibly through the cavity in any attempt of the patient to clear the nostrils. If this air is prevented from passing through the cavity, the clot consolidates in position and the hæmorrhage is checked.—*Medical Age.*

Toothache from decayed teeth is said by a Swiss authority to be relieved promptly by cotton-wool moistened with a mixture of equal parts of camphor and chloral and a fifth as much cocaine.—*American Druggist.*

SOCIETY NOTES.

The Medical Society of the State of North Carolina will hold its regular annual meeting in Charlotte, on Wednesday, Thursday and Friday, the 13th, 14th and 15th of April next.

We give below the officers, committees and chairmen of sections, as appointed at the last meeting :

President—H. T. Bahnson, Salem.

Vice-Presidents—G. G. Smith, Concord ; J. L. Nicholson, Richlands ; C. M. Poole, Salisbury ; H. B. Ferguson, Halifax.

Secretary—Julian M. Baker, Tarborough.

Treasurer—R. L. Payne, Jr., Lexington.

Essayist—George G. Thomas, Wilmington.

Orator—J. M. Hays, Oxford.

Committee on Publication—Thomas F. Wood, Wilmington ; George G. Thomas, Wilmington ; W. T. Ennett, Burgaw ; J. M. Baker, Tarborough.

Board of Censors—W. J. Love, George G. Thomas, W. W. Lane, Wilmington.

Committee on "Prize Essays"—R. H. Lewis, Raleigh ; W. J. Jones, Goldsborough ; and John McDonald, Washington.

Committee on "Pitman Prize"—H. T. Bahnson, Salem ; A. B. Pierce, Weldon ; W. D. Hilliard, Asheville ; W. T. Ennett, Burgaw; and Joseph Graham, Charlotte.

CHAIRMEN OF SECTIONS.

Practice of Medicine—Isaac N. Taylor, Morganton.

Surgery—Frank Brown, Greenville.

Medical Jurisprudence—Sion Rogers, Raleigh.

Pathology and Microscopy—D. T. Tayloe, Washington.

Obstetrics and Gynæcology—E. M. Littlejohn, Thomasville.

Materia Medica and Therapeutics—W. L. Crump, South River.

Diseases of Children—L. W. Battle, Durham.

The Board of Examiners will meet in Charlotte, at the Central Hotel, on Monday, the 11th of April, to allow candidates an opportunity for obtaining their license in time to join the Society on the first day of its session.

REVIEWS AND BOOK NOTICES.

A Text Book of Medicine. By Dr. Adolf Strümpell. Translated by Herman F. Vickery, A.B., M.D., and Phillip Coombs Knapp, A.M., M.D., with editorial notes by Frederick C. Shattuck, A.M., M.D. Pp. 981. D. Appleton & Co., New York.

This is the latest and best exposition of the German practice of medicine, and we might say, of the best authorities on the continent of Europe.

The work begins without any of the introductory chapters on general pathological subjects, usual in many text books, an omission which is to be commended in view of the special volumes on these subjects now in the hands of the profession. But it considers all of the essential fevers, erupture fevers, malarial diseases, dysentery, septic and pyæmic diseases, hydrophobia, trichinosis, etc. These are all included under the head of acute general infectious diseases. The history and treatment of these diseases are clearly written and not unduly condensed. The first section includes under the heading of Diseases of the Respiratory Organs all affections of the nose, larynx, trachea, lungs, the bronchi and pleura. Of this section the most interesting article is the one devoted to tuberculosis of the lungs. The author says of the etiology of tuberculosis, that it is a fact that its origin is due to a micro-organism of a pathogenetic power sufficient to cause all of the manifold lesions of this disease, and in adopting thus bodily the theory of Koch, he declares his belief in its contagiousness. The sections on Diseases of the Circulatory Organs and the Digestive System are full, though nothing new is developed in them. Diseases of the Nervous System occupy the leading place in the work and the treatment of the subject comprises the best work of Dr. Strümpell. It is amply illustrated, and will bear searching criticism. In fact, it is equal to the best monograph on this subject. Diseases of the kidneys, of the organs of locomotion, and those affecting the blood and tissue-metamorphosis, occupy the three last sections.

The translation is done in excellent English, and Dr. Shattuck has added value to the work by his careful editorship and his timely notes. He has added also several articles on diseases of importance to the American physician, which attest his ability and fitness to supervise the issue of this work in this country.

How to Work with the Baush & Lomb Optical Co's (of Rochester, N. Y.) Microtome and a Method of Demonstrating the Tubercle Bacillus,

Is a pamphlet written by Dr. James E. Reeves, of Wheeling, West Virginia, for the Company, and is devoted to an explanation of the manner of using this essential accessory of microscopical work. The manufactures of this optical company command the confidence of all who have had dealings with them, and we feel safe in recommending the microtome which they make, and which such eminent authority as Dr. Reeves says is worthy of confidence. Anyone interested in microscopical work will do well to look into the merits of this company's work, and a study of Dr. Reeves' little pamphlet will repay them for the small outlay necessary to procure it.

Diseases of the Spinal Cord. By Byron Bramwell.

When book follows book in rapid succession, it is agreeable to the busy practitioner to find some that have a *raison d'être.* This work is a concise statement of the present status of our knowledge of the diseases of the spinal cord.

The first chapter contains a careful explanation of the connection of the different segments of the cord, and their physiological relations. The introduction of illustrations of microscopical sections will be of great benefit to the painstaking physician who is anxious to do microscopic work and be able to see for himself how far disease can change normal appearances. We must know the normal to appreciate the pathological. In no other way, it seems to me, can an author explain so succinctly the anatomy and physiology of the cord than by the judicious use of illustrations with clear verbal statements.

The chapter on general pathology is short, but, by concise statement, much information is set forth in each page. An apt illustration imparts to the mind of the non-specialist reader more than a page of words.

In chapter third, on care-taking and clinical examination of the cord, the importance of system in care-taking is apparent. The motor functions attributable to each segment is in consonance with the best teaching of the present time.

But why make individual mention of each chapter? The book is well written. The author's attempt to simplify the discussion of the diseases of the cord by showing the system in which they originate with wood-cuts of microscopical sections from actual cases will be appreciated by any physician who has made sections of the cord and longed for some standard with which to compare his own work.

On the whole, it is a book which few men can afford to do without. It is a successful effort in the right direction.

PARALYSIS—CEREBRAL, BULBAR AND SPINAL. A Manual of Diagnosis. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. D. Appleton & Co., New York.

The book is devoted to the study of the diagnosis of paralysis, and its declared purpose is to aid the physician, when brought face to face with a case of central nervous trouble resulting in a paralysis, to locate the seat of the lesion and the probable extent of the trouble. It fills a space in this department of medical literature not heretofore taken up by any author with such definite limits, and its merit is equal to the author's reputation. The illustrations are numerous and of great service in the study of the subject.

A NEW TEST FOR IRON.—Prof. F. P. Venable announces in the *Bulletin* of the Mitchell Society that he, by accident, discovered a new test for iron. A solution of cobalt nitrate in strong hydrochloric acid is blue. The addition of a small amount of a ferric salt changes this blue to green. This test is distinct for three thousandths of iron. Ferrous salts do not give the reaction. This reagent is especially useful for detecting iron in strong acids.

EGGS coated with butter, in which two or three per cent. of salicylic acid has been dissolved, and then packed in dry sawdust without touching one another, will keep fresh for a year.—*American Druggist.*

CORRESPONDENCE.

WINDSOR, N. C., March 1, 1887.

Messrs. Editors North Carolina Medical Journal:

GENTLEMEN:—We have read with great interest Dr. Thomas Hill's letter in the February number of your valuable journal, upon the treatment of hæmorrhagic malarial fever by ambrosia artemesiafolia, or, in plain English, ragweed.

From our experience with the aforementioned dangerous malady, as well as from our theoretical ideas upon the subject, and which are shared by many high authorities, we are inclined to believe that the ragweed must have played but a very small part in the restoration to health of our esteemed friend's patient. In the first place, Dr. Hill writes that he also used the two great sheet-anchors for malarial disease, and which by some are regarded as specifics; hence how does he not know that the victory over death belonged to our old friends, calomel and quinine, instead of the new candidate for our favor, ragweed? Besides, is not the treatment by styptics and astringents opposed to sound pathological principles, and does it not run counter to the views of the best authorities? Nevertheless, we are indebted to Dr. Hill, as we should be to all pioneers in every unexplored wild of our great profession, and doubly trust that he will continue his observations in this field, as you also, Messrs. Editors, suggest.

In all of our experience in the disease under consideration, and that experience has been considerable, living in one of the most malarial parts of our State, and where more or less of hæmorrhagic fever has prevailed every fall and winter since we were graduated in 1872, we have never known a single case to terminate fatally from the effects of hæmorrhage or purely from asthenia. Of course, we would not say that either of the foregoing would not contribute to a fatal result in some cases, though, as aforementioned, we know of none. On the contrary, death has invariably proceeded from a different cause—uræmic poisoning—and presumably blood-poisoning from other sources, probably, among them the retention of cholesterin and other excrementitious substances in the vital fluid, caused by the action of the malarial element, which so empoisons the nervous centres that healthy innervation is suspended and the various emunctory organs cease their work of depuration. Besides, the doctor's case in which he used the ragweed, could hardly be called a sample of the worst type of the disease. The latter form pursues a different march altogether. We have in this form the chill followed in a few hours by complete jaundice, and, instead of a copious discharge of hæmorrhagic urine, there is but a scant excretion, in which is more or less of blood, and which rapidly glides into all the horrors of uræmic poisoning, to which the patient rapidly succumbs.

Why, then, treat a symptom, which is the source of little or no danger to the patient? In our opinion the kidneys should be encouraged to act, even though there be a free discharge of blood along with the urine, as the patient is in no immediate danger so long as this symptom continues, i. e., so long as the urea is eliminated in such quantities as to preclude uræmic poisoning.

We always feel hopeful of our patient's recovery so long as we see continuous urinary discharges, no matter how much blood accompanies them, and feel correspondingly alarmed, when the discharge grows scanty, as such is invariably a signal of speedy dissolution, or at least of great danger.

Right here we would remark, *en passant*, that there have been numerous physicians of learning and repute, in various parts of our country, who have denied in toto the hæmorrhagic nature of this disease. Such have contended, very ingeniously, that there is no true hæmorrhage. While we have great respect for the opinions of some of these, we cannot fall into the error of becoming their proselytes. On the contrary, we have had most positive proof that the discharge is a true, *bona fide* hæmorrhage, having once in a typical case—a man aged 35 years, who had been suffering with chronic malarial poisoning for months—made a microscopic examination of the urine and found whole roulettes of red and white corpuscles clinging together. This was directly after patient had turned yellow and copious bloody evacuations from bladder had supervened. A second microscopic examination of the urine when the patient was in articulo mortis, and the excretion almost entirely suppressed, failed to detect any corpuscles, owing, we suppose, to thorough disintegration; decomposition commencing before life was extinct, if we may be bold enough to use the term in this connection. No doubt the foregoing is the reason why only negative results were obtained in the experiment, or examination of the physicians alluded to above. We made our examinations some years ago in conjunction with Dr. L. P. Warren, late of Edenton, North Carolina, and which to our mind proved conclusively the hæmorrhagic nature of the disease under consideration.

In our opinion the different types or shades of the disease require different medication, those cases in which there is a decided remission or intermission of the dangerous symptoms being more easily controlled by quinine in moderate doses; the enormous doses used by some practitioners being decidedly injurious.

In the graver form in which there is no intermission and scarcely any abatement of the dangerous symptoms, and in which the system is so overpowered by the malarial influence that it cannot react sufficiently, even to go through the phenomena of another paroxysm, we would use the antiperiodic sparingly, but instead *give at once, without delay*, from 50 to 100 grains of calomel, combined with one-eighth to one-fourth of a grain of elaterium, with diaphoretics, etc., to arouse the emunctory organs forthwith. A great drawback to this treatment is the intense nausea and vomiting, frequently of black vomit, showing congestion of the stomach, or rather of the whole portal circulation, and which may sometimes be favorably modified by powdered ice and the preparations of bismuth. If the calomel and elaterium be administered in time, we have never known it to fail to produce a favorable effect at once. Under no circumstances do we administer opiates, as in our first years of practice we invariably found them to do harm, our aim being to arouse the dormant functions, and not to paralyze them into that sleep that so frequently "knows no waking."

We are aware that our treatment may call forth criticism, as it will undoubtedly seem heroic to some, but as we have to cope with an enemy who will tax our mightiest efforts—

> "A dragon fell and strong,
> Whose breath is fever fire;

and as

> "No knight of fable or of song
> Encountered foe more dire,"

we must go into this conflict prepared to act heroically, if need be. We would here state that we are no advocate for hyper-medication, but this is a disease that calls for positive treatment.

We have treated many cases according to the principles enunciated in this letter, and never yet have seen anything other than benefit to follow such a course of treatment, when applied in time. Hence we submit these remarks to the profession, hoping that the plan of treatment will be thoroughly tested, and that if there be found good in it, it may meet its just recognition at the hands of the brethren. We almost forgot to state that we have found jaborandi an invaluable ally, also, counter-irritants in the form of large blisters over the epigastrium and kidneys.

Yours truly, E. W. PUGH, M.D.

QUININE IN 1694.

An esteemed correspondent writes us as follows, and we have taken the liberty to print it without his consent :

"I enjoyed reading the extract from John Evelyn's diary, of the item in regard to quinquina and its use in Charles I's attack of ague. But the caption, "Quinine in 1694," is calculated to mislead our younger brethren into the idea that quinine was known at that day. Such, you know, was not the fact. Quinquina was the name given to the bark brought over to Europe by the Jesuits from La Patz. This was before the discovery of the Loxa Bark, and was probably the true cinchona. At any rate, Poinet, in his history of drugs, 1694, so considers it ; while the alkaloid quinine was not obtained from the bark till 1803, by Dr. Duncan, of Edinburgh, nor its complete separation effected till 1820, by Pelletier, of France. That bark, even, was not then (1694) freely resorted to, as may be seen by recalling an item of Evelyn's diary, dated February 7th, 1682, in which he refers to his own treatment in an attack of ague as follows : 'Had a severe fit of ague, when recourse was had to bathing my legs in milk up to the knees, made as hot as I could endure it, and sitting so in a deep churn or vessel covered with blankets, and drinking cardurus posset, then going to bed and sweating. I not only missed that expected fit, but had no more, only continued weak.' The reflection which the Marquis of Normandy makes on Dr. Lower's honesty in withholding the use of the bark in King Charles' case, because of rivalry of feeling toward Short, who had recommended it, is, I have no doubt, a lie, as the author of the "Tracturus de Corde" was too honorable a man to be guilty of such meanness. Besides, the reason of the refusal imputed to him, that it (the bark) 'was a remedy only fit for kings,' was absurd, as it was a king they were treating."

BIENNIAL MEETING OF THE BOARD OF HEALTH OF SAMPSON COUNTY.

CLINTON, N. C., January 3, 1887.

The Board of Health of Sampson County met in the Court House, and was called to order at 1 P. M. by Col. John Ashford, the Chairman of the Board of County Commissioners, and Dr. J. H. Benton was elected Secretary. The proceedings of the previous meeting were read.

Moved and carried that a committee of three be appointed by the chairman to report the names of the physicians of the county who are eligible to vote in the election for a Superintendent of the County Board of Health. Drs. A. M. Lee, Henry Sloan and A. T. Cooper were appointed, and, after a short conference, made the same report—with the suggestion that the name of Dr. Isaac M. Hobbs be erased from the list—as that of a committee appointed for a like purpose at the meeting held on the 8th day of May, 1885; which report, with a *note* in regard to the Edinborough Medical College of North Carolina, by the editors of the NORTH CAROLINA MEDICAL JOURNAL (see page 254, No. 4, Vol. XVI of said Journal), was read by the Secretary, whereupon Dr. A. Holmes offered the following:

Moved that, for the purpose of determining who shall compose the Board of Health for the County of Sampson according to the laws as passed by the Legislature of North Carolina, and who are eligible to membership on this Board, there being a difference of opinion as to regular medical colleges, We ask for a vote of the members: *Do we recognize the Edinborough Medical College of North Carolina as a regular medical college, and a diploma from said institution as entitling the holder to a membership? And further, that the vote of each physician present be recorded.*"

The roll being called the following voted in the negative: Drs. A. M. Lee, A. T. Cooper, A. Holmes and J. H. Benton—4.

Physicians present and declining to vote, Drs. J. A. Stevens, Henry Sloan, F. J. Cooper, W. L. Hudson and Wright Hall.

Announcement was made that the Board of Health of Sampson County *does not* recognize the Edinborough Medical College of North Carolina, and a diploma from said institution *does not entitle* the holder to membership.

Drs. J. A. Stevens and A. F. Cooper were placed in nomination for Superintendent of the County Board of Health.

The gentleman holding a diploma from the Edinborough Medical College of North Carolina *demanded* that his vote be allowed. The chairman decided to receive it.

Upon counting the vote Dr. Stevens was declared elected for the ensuing term.

The Board adjourned *sine die.*

J. H. BENTON, Secretary.

CURIOUS EFFECT OF IODOFORM.—Dr. Poncet, whose attention was directed to this subject by a patient, found upon investigation that silver which has been in contact with iodoform, or which has even been touched by the fingers after they have been in contact with iodoform, acquires a nauseous odor, resembling that of garlic. The odor becomes more perceptible upon rubbing the silver. A drop of saliva from a patient fully under the influence of iodoform is said to be sufficient to impart the odor, or the mere placing of the drug and silver near together. The odor is not that of iodoform, and is thought to be due to a decomposition product. A spoon after contact imparts an unpleasant taste to food eaten with it.—*Medical Abstract.*

DR. G. J. GATCHKOVSKY treats acuminated condylomata by powdering with pure resorcin. He treated thirty-four cases in this manner with great success; the duration of treatment being from three to eight days. In broad condylomata of the anus pain and the new growths themselves disappear soon after treatment is begun.—*Medical Abstract.*

DR. J. G. WESTMORELAND, a well-known surgeon of Atlanta, Georgia, died in Atlanta on March 3d, at the age of 71 years. Dr. Westmoreland was the founder of the Atlanta Medical College, and for a number of years was its dean and president of the faculty.—*Marylaad Medical Journal.*

DEMANGI says that diabetes insipidus is best treated by valerian, in doses of two to four grammes of the powder per diem.—*Medical Register.*

CURRENT LITERATURE.

ON THE DILATATION OF URETHRAL STRICTURES, OF LARGE CALIBRE, IN THE TREATMENT OF GLEET.

By F. N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York.

Nothing is more distinctly laid down in the writings of authorities in regard to the urethral stricture than that the results of dilatation are always of a temporary character. It is therefore well understood in the cases of cure of gleet by dilatation of the stricture or strictures upon which it is dependent, that subsequent dilatation must be kept up, *indefinitely*, at varying intervals, in order that the gleet may not be reëstablished.

For a permanent cure a complete division of the stricture or strictures must be had, and any treatment which falls short of this will, of necessity, fail in doing more than to temporarily remove the obstruction which has been the cause of the gleet. It is, however, desirable that a temporizing course should be pursued in many cases, for various reasons, just as in many cases it may be found better to pay the interest on a mortgage rather than to pay it off. In some cases there will be want of time and means; in some lack of the instruments, skill and experience necessary to a radical cure of the stricture. In a very large proportion of cases the prejudice against any cutting operation will be the sole objection, and this is encouraged by the advocates of dilatation who refuse to accept the well-authenticated evidences of prompt, satisfactory and complete cure of stricture and of the gleet through complete division, and who persistently ignore the possible perils of its continuance. These also underrate the dangers of dilatation, while exaggerating the risks and discomforts of dilating urethrotomy. For such and perhaps other reasons, the treatment by gradual dilatation will be required in many cases. Directions for its proper performance are therefore appended, as follows:

For dilatation of strictures of large calibre, or those above 20 F., I prefer the solid nickel-plated sound. The essentials of a solid metal instrument, for easy passage through the urethra, are: 1st, that it shall have a highly-polished surface, steel or nickel-plated; 2d, that its extremity shall be so curved that, in its passage through the urethra, it shall naturally follow the course of that canal, readily conforming to what is known as the *sub-pubic curve.* Urethral sounds, as usually constructed, consist of a straight portion, from six to eight inches in length; the curved portion from two and one-half to three and one-quarter inches in length on its convex surface. The length of this curve between these limits is not of importance; the one, as a rule, which is the easiest of introduction is that to which you are most accustomed. Sir H. Thompson's and Prof. Van Buren's sounds have a curve of three and one-fourth inches. My own preference is for the shorter curve; this seems to me more easy to direct, enables the operator to be more sure of the exact locality of its point than those of the longer arc, and readily adapts itself to the sub-pubic curve.

The sub-pubic curve is found in the well-formed human subject to correspond to the arc of a circle three and one-fourth inches in diameter, the chord of the arc being two inches and three-fourths, and coincides with the course of the urethra from its junction with the bladder to a point an inch and a half anterior to the bulb. The lowest point of the curve is just about opposite the anterior layer of the triangular ligament when the body is upright. In children this curve is more acute, and in old men with enlarged prostate it is more obtuse (Sir H. T.), but in the well-formed adult it is as above stated.

All solid instruments intended for passage through the deep urethra should be formed so as to correspond to the *sub-pubic curve,* and this curve should always be borne in mind when attempting to introduce such instruments.

Mode of Introduction.—Taking up the penis carefully, so as partially to include the glans between the first two fingers and thumb, and taking up the sound lightly as you would a penholder, introduce it well oiled, pretty much by its own weight, turning it slowly if any halting occurs, in this way releasing its point from any obstructive folds of mucous membrane or engagement in a false passage, or natural sulcus. The larger the instrument used the less liable to arrest from such causes. Always begin with the largest instrument which the meatus will permit. In cases of contracted orifice a division may be necessary before any satisfactory introduction can be effected.

As the sound is advanced gently draw up the penis on the sound to meet it, keeping the handle of the instrument well down as the abdomen is approached, thus avoiding arrest by the anterior border of the triangular ligament; then advance by slowly depressing the handle until the instrument, following the deep urethral curve, passes well into the bladder. Obstructions may, however, be met. In the anterior or movable portion of the canal, if there be no stricture, we need have no trouble in passing a large instrument. Small instruments, however (say of eight or ten m. circ.), may engage in the little follicular sulci which are not infrequently present at different points, especially in the superior wall of the urethra. Quite a large one is usually met at about one inch from the urethral orifice. This is called the *lacuna magna.* Spasmodic contraction of the anterior urethra is rare, but if the mucous membrane is in an irritable condition, it may arrest, temporarily, the progress of even a full-sized instrument. It is at the bulbo-membranous junction, from five to six inches down, that we are most likely to have an instrument arrested. First mechanically, by the anterior border of the triangular ligament. A little tilting upwards of the handle of the instrument will clear this obstruction, and then the point will bear against the anterior aspect of the membranous portion of the urethra. The circular muscular fibres which surround this are continuous with the muscular coat of the bladder, and are abundantly developed here; besides these, the compressor urethræ muscle surrounds the whole length of the membranous urethra. It is here that the spasmodic contraction of the muscular structures surrounding the canal most commonly hinders, to a greater or less degree, the advance of instruments, not seldom completely barring their passage into the bladder. Arrest of an instrument at this point *is the rule,* and undue haste or violence will but increase the difficulty. The simple weight of the instrument, allowed to bear steadily against the face of the closed walls for a few seconds, will usually cause the contraction to yield; when, slowly depressing the handle of sound, it will glide easily into the bladder. The interval between the act of introducing sound or other instrument for the gradual dilatation of stricture should never be less than two days, and, where irritation is produced by it, this should be allowed to subside entirely before the operation is repeated, using emollient and sedative injections in the meantime. Among the effects distinctly traceable to irritation caused by the introduction of sounds, more particularly through the deep urethra, is a peculiar fever, termed *urethral fever.*

In many cases, however, in which I explore the urethra, I do not pass the instrument *into the bladder*, for the reason that stricture is very seldom situated near the bladder. I cannot be too emphatic in warning you to keep out of your patient's bladder. Do not enter it even for exploratory purposes, unless you think it absolutely necessary to do so. First explorė the anterior urethra and relieve, as far as practicable, any abnormal condition that may exist there. Keep out of the bladder, if possible. It is the disposition of the profession all over the world, when exploring a urethra or dilating a stricture, to pass the instrument on into the bladder. Now, there is absolutely no danger in passing an instrument gently down to the membranous junction, but there is always danger in passing an instrument beyond that point on into the bladder. Death has occurred in more than one instance from suppression of urine through a reflex irritation, caused by gently passing a bougie into the bladder, where disease of the kidneys and bladder was present. I have known many cases of swelled testicle that occurred simply from the passage of a sound through the deep urethra, and at least one case where the loss of a testicle was directly due to introduction of bougies for dilatation of stricture, thus setting up an orchitis which finally ended in an abscess which destroyed that organ.

Urethral Fever.—This consists of a rigor, more or less severe and prolonged, followed by a temperature sometimes up to 105°, and this is succeeded by a sweat, altogether exactly like an attack of malarial fever, and this not infrequently succeeds the passage of an instrument through an urethra, unusually irritable from any cause, the chill coming on from one or two to twenty-four hours after the instrumentation. In persons of malarial habit it is most frequent, and unless treated vigorously by quinine may recur like an ordinary quotidian.

It is important in connection with the subject of urethral fever to be aware that the same causes which induce it, or the nervous disturbance caused by the attack, may, through reflex irritation, produce a partial or complete *suppression of urine.* This is most likely to occur in cases complicated by organic disease of the kidneys. Harrison, of Liverpool, has called especial attention to the danger of its occurrence in elderly men who habitually pass large quantities of pale urine. Such an accident calls for prompt revulsive treatment by dry cupping over the loins; turpentine and hot-water stupes, and the galvano-faradic current is also claimed to be of service in restoring the excretory function of the kidneys. In my own experience, a large dose of calomel, twenty to thirty grains, has on several occasions acted promptly in producing this result.

In view of the possibilities of urethral fever and the other troubles which have been alluded to as occasioned by the passage of instruments through the deep urethra, more especially in elderly people, or those in which the urethra is especially sensitive, it is wise to administer quinine, five to ten grains, in such cases, by the mouth or in suppositories, at least one hour or two previous to the attempted introduction of the instrument, for in this way, and with suitable rest (preferably in bed) from twelve to twenty-four hours afterwards, the danger of such troublesome consequences may be reduced to the minimum.—*Journal of Cutaneous and Genito-Urinary Diseases.*

RESECTION OF THE GUT.

Mr. C., 59 years old, has had a reducible hernia for fourteen months, wore no truss, but on Tuesday, after jumping, was unable to restore it to his abdomen ; his physician failed also, and, after waiting until Friday night, consulted Dr. Miltenberger, who kindly suggested calling me in. I saw the case Saturday morning, and saw the patient showing the influence of opium he had taken, vomiting yellow offensive fecal matter, limbs drawn up, belly tympanitic, pulse and respiration rapid, a cold sweat on forehead, in fact collapsed. Seeking the cause of the trouble, I found a potatoe-like tumor, irregular and somewhat nodular, over which a dusky lurid skin was tensely stretched, with its long axis transverse to the body and lying over Poupart's ligament on the right side.

The tumor was tender to the touch and tympanitic, and the diagnosis admitted of no doubt, a strangulated indirect hernia lying in the inguinal canal, and not so far down as the external ring which could be felt free by invaginating the scrotum.

Having shaved and washed with all antiseptic precaution but the spray, using the bichlor. hyd. solution, with the assistance of Drs. Gavin and Claude Van Bibber, I cut down on the axis of tumor, using a grooved director after penetrating the skin. No vessels of any moment spouted, and soon the sac, looking like a ripe purple plum, dark effusion and in some places ashy, showed itself in the wound. Carefully separating adhesions, I nicked the internal ring without effect at reduction. The only place left for constriction was the neck of the sac, when, on opening the sac, it was found, as well as gut and omentum, both spacelated, and from cribriform puncta in the intestines the slightest pressure forced out liquid feces. There were no adhesions in the sac and but little fluid. The only thing to do was to exsect as much of the gut as looked unable to be replaced. Healthy gut at either end of gangrenous portion was stitched to the side of the wound and to each other, the mesentery intervening was ligated and all the necrosed tissue excised. A gush of fecal matter showed the improbability of a twist high up. The omentum and sac, after ligation with catgut, were removed. The stump dusted with iodoform after washing, and iodoform gauze dressing applied over drainage-tube, all covered in by a spica, finished the operation.

Hot bottles, injection of brandy, and digitalis did not rally him, and he died in a few hours, never recovering from the shock of his lesion.

To show how desperate I considered the case when I first saw it, I stated the facts and the probabilities and only operated at their solicitation. The Priest administered extreme unction before I began, and I operated more to let the family console themselves that all had been done, than from any hope I entertained of success.

I believe in operating in strangulated hernia as I would in tracheotomy, for sometimes it resurrects.

I did not attempt a reunion of gut, as I did not care to have the man exposed to a longer operation than was necessary, nor did I care to have him die under my hand.

A suggestion, though homely, occurred to me then: One has great trouble in bringing the ends of the gut in apposition, and we do not always have cones of cocoa-butter or gelatine at hand to act as lasts to draw the gut over.

A piece of link-sausage out of which the meat has been turned and filled with butter or lard, makes a good cone or basis to draw the ends of the gut over prior to uniting them. Just before the last stitch is drawn up a tenotome can cut the sausage sack and the gradual warmth of the body will melt the butter, allowing it to empty itself into the bowel at the seat of suture, thus filling up any little openings made by the needle. The sausage sac may pass out with the feces.

Water or air will not do to fill the sac with since a puncture of the needle would let out its contents before one is through with them. One other point before leaving this case, and that is the immense importance of early operation in strangulated hernia.

Were I to gauge the value of time I would say, hours are worth years in inguinal hernia ; moments are worth months in femoral.

I believe there are more deaths due to the complacent let-alone policy engendered by a few recorded cases of unsomatic recovery when the patient was on the table for operation, than can be laid to the door of any surgeon who operates early. Divest your mind of prejudice born in a suppurative age, and, instead of being appalled at death rate due to late interference, fully appreciate the triumphs of other departments of peritoneal surgery and apply them to herniotomy.—*Dr. Robert W. Johnson before the Clinical Society of Maryland, January* 7, 1887.

CHLOROFORM has been found very efficient against tape-worms. Doses of 2 grams have been given, repeated after twenty or thirty minutes, but troublesome cardiac symptoms may be avoided by giving much smaller doses (a few drops) every few minutes for a few times. Dr. Thompson successfully prescribed chloroform ʒ j (by weight), simple syrup to ℥ j, to be given in three doses, at intervals of two hours, in the morning, with castor oil to follow.—*London Medical Record.*

NOTES.

A FOURTEEN-YEAR-OLD scholar in the district school near Vandalia, Ill., took a swallow from his ink-bottle the other day to see how it would taste. The next morning he died. His physician said that the ink contained a deadly poison.—*Medical and Surgical Reporter.*

TRUFFLES (Terfezia Conis, Tul.) have at last been found in the United States (*Botanical Gazette*), in Louisiana, and have been identified by Mr. J. B. Ellis, of Newfield, N. J., the eminent mycologist. It is reported as quite common at Natchitoches, and is eaten by the residents.

THE LEGALITY OF PROXY VOTES IN THE ELECTION OF SUPERINTENDENTS OF HEALTH.—In reply to an inquiry on the above subject, the Attorney General says: "I think the general rule is, that one cannot vote by proxy unless the Act creating the organization in which the vote is authorized clearly provides for such vote: and I do not find any such power conferred in the statute creating County Boards of Health."

A USEFUL ARTIFICIAL LIGHT (*Botanical Gazette*) is thus constructed: A glass globe about six inches in diameter is filled with a very dilute solution of ammoniated copper oxide, and suspended between a large Argand burner (gas or oil) and the microscope. The light should be about twenty inches from the microscope, and the globe sufficiently supported so as not to oscillate. The light is soft, green and pleasant to the eyes.

E. V. ZOELLER, the member of the committee on the material formulary of the American Pharmaceutical Association, representing the North Carolina Pharmaceutical Association, has issued a circular explaining briefly the object of the committee's work: "The duties of the committee are to collect, unify and adopt the best formulæ for the numerous semi-officinal preparations in use throughout the Union." The formulary will include all preparations which legitimately belong to pharmacy, excluding only trivial or purely technical ones, and will not imitate or include proprietary remedies.

BOOKS AND PAMPHLETS RECEIVED.

Report of the State Librarian, Session 1887.

Report of the Board of Regents of the University of Texas.

Ethyl Bromide in Ophthalmic Surgery. By S. Latimer Phillips, M.D.

Report of the Board of Agriculture of North Carolina for the Year 1886.

Rhinology in the Past and of the Future. Carl H. Von Klein, A.M., M.D.

"Report from the Department of Immigration" of the State of North Carolina.

Backward Dislocation of the Fingers upon the Metacarpus. By E. O. Otis, M.D.

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F.R.C.S.

A Chapter in North Carolina History. From the *News and Observer* of December 31, 1886.

A Picture of the State. South Carolina in Every Field of Labor in 1887. The *News and Courier.*

The Relation of Our Public Schools to the Disorders of the Nervous System. By C. F. Folsom, M.D.

President's Address. Tenth Annual Meeting of the Detroit Medical and Library Association. By J. C. Lundy, A.M., M.D.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1886.

Treatment of Fissures and Ulcers of the Rectum and Anus with the Aid of an Improved Rectal Speculum. W. S. Watson, M.D.

Reports of President Kemp P. Battle and of the Committee of Visitation of the University of North Carolina January 20th, 1887.

The Source of the Mississippi. Ivison, Blakeman, Taylor & Co.

Report on Diseases of the Rectum. By Joseph M. Mathews, M.D.

Sterility. Management of the Secundines. Wm. H. Wathen, M.D.

Memorial Address on the Life and Services of General Bryan Grimes. By H. A. London.

Reports of the President and Secretary of the Board of Health of the City of Wilmington, Del., 1886.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1886.

Researches into the Etiology of Dengue. By J. W. McLaughlin, M.D. Reprint from the Journal of the American Medical Association.

War of the Rebellion. Official Records of the Union and Confederate Armies. Series 1. Vol. XVII, Part II. Correspondence, etc., etc.

A Novel Procedure for the Removal of Subglottic Laryngeal Growths, with the Report of an Illustrative Case. By William Chapman Jarvis, M.D.

The Physician's Pocket Day Book. Designed by C. Henri Leonard, M.A., M.D. Price $1.00. The Illustrated Medical Journal Company, Detroit, Michigan.

Granular Lids and Contagious Ophthalmia. By W. F. Mittendorf, M.D. The Physician's Leisure Library. George S. Davis, Detroit, Michigan. Price 25 cents.

Superintendent's Report of the Eastern North Carolina Insane Asylum, also the Reports of the Chairman of the Directors and of the Treasurer (ex-officio) for the Year of 1886.

On the Determination of the Necessity for Wearing Glasses. By D. B. St. John Rossa, M.D. The Physician's Leisure Library. George S. Davis, Detroit, Michigan. Price 25 cents.

OBITUARY.

JAMES A. MACRAE, M.D.

On Wednesday last, at 10 A. M., Dr. James A. MacRae was released from the burden of life and passed, we believe, to a peaceful rest.

For months he had gradually lost his natural vigor, and was unable to attend to his professional duties, and for sometime he had been confined to his room.

The greater portion of his life had been passed in the unobtrusive discharge of the duties of his profession, and he was well known throughout the State, but especially to the people of his native town, as a conscientious and able physician.

He graduated at the University of the City of New York (then known as the Mott School), in 1845, and began the pursuit of his calling in Fayetteville the same year.

He was surgeon of the First Regiment of North Carolina Volunteers (Col. Paine) during the Mexican war, and at its close he resumed practice in Fayetteville.

At the breaking out of hostilities between the States he became surgeon of the Fifth Regiment of North Carolina Troops (known as the bloody Fifth), and served for two years and again returned to Fayetteville and remained until 1866, when he moved to Baltimore and practiced medicine. Here he was offered high position, but he loved the quiet of country life, and again returned to his old home and remained until his death.

At one time he was Mayor of the town, and also held for several years the position of county physician.

In his younger days the writer occupied an office in the same building with him, and there first learned to appreciate his worth, and received many kind suggestions from him, which are often so valuable to young men. He had at that time a large practice among the poor, and was always kind, attentive and forbearing in a remarkable degree to that class from whom he could never hope for remuneration and very seldom for thanks. A man of great benevolence and gentleness of character, he died at the ripe age of 70, loved and respected by all. T. D. H.

Fayetteville, March 14, 1887.

NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } **Editors.**

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ORIGINAL COMMUNICATIONS.

COCAINE DOSAGE AND COCAINE ADDICTION.

By J. B. MATTISON, M.D., Brooklyn, N. Y. Read before the Kings County Medical Society February 15, 1887.

The sad story, in a recent *Record*, of the Russian surgeon's suicide from sorrow or remorse due to his belief that a patient had died from an overdose of cocaine, points a moral, the import of which demands more than a passing notice.

No advent in the therapeutic arena during the last decade, has been attended with such varied and extensive claims for favor as cocaine. Its marvellous effect in ophthalmic surgery roused a spirit of experimental research in other directions which has added largely to its well-proven power for good ; but, as has been well observed, a potency for harm, and the risk impends of its ardent advocates being carried by over-enthusiasm, beyond the limit of a safe regard for the welfare of their patients or themselves, that may imperil an otherwise well-founded success.

Surely it is, in the writer's opinion, full time to draw the line ; to re-voice a warning as to the use and abuse of this valued, but, at times, toxic drug, lest the roll of alarming, dangerous and fatal effects from its ignorant or incautious using be sadly extended, and a reaction ensue that, by creating distrust within and without the profession, will damage its good repute, and hinder its use in cases where it would be almost certain of serving us well. And the need of this seems all the more called for in view of opinions expressed, the past year, in certain quarters, affirming the harmless character of cocaine—opinions which, I am convinced, are at variance with well accredited facts, and should not be allowed to pass uncontradicted.

Cocaine seems to have secured for itself a more than usual share of attention aside from the professional press. One metropolitan daily, in particular, has, again and again, given its columns to a discussion of the topic, and in a somewhat lengthy article not long ago, an "eminent but unnamed specialist"—Dr. Francke H. Bosworth—was reported as saying "there is not a well-authenticated case on record, as yet, where cocaine has effected injury."

In view of cases cited in this paper, and others elsewhere recorded, such a statement is no longer tenable, and any conclusion based thereon as to the harmless nature of cocaine is misleading and incorrect.

And the evidence herewith presented weighs even more heavily against an assertion by Dr. Wm. A. Hammond, at a recent meeting of the New York Neurological Society, in the course of his "Remarks on Cocaine and the so-called Cocaine Habit," when, after telling his taking of eighteen grains at a subcutaneous dose, he asserted "he did not believe any dose that could be taken was dangerous!" What might be the outcome of such an opinion put in practice? The Russian surgeon's error of judgment, fatal to his patient and himself, was largely due to his reliance on the asserted use by other surgeons of large doses without ill-effect. Might not a like result follow an incautious dependence on Dr. Hammond's disbelief in the toxic power of cocaine? The *Record* well said of Prof. Kolomnin's case: "The experience, though so bad, may not be without its lesson," and put a very pertinent query as to whether "there are not other surgeons who could report very serious, if not fatal, results from injudiciously or ignorantly using too large a dose of cocaine?"

Fifty cases herewith noted attest a power in this drug on some patients that warrants caution with all.

"A young woman, aged twenty-three, was sent to Prof. Kolomnin, and found to have a large ulcer of the rectum, which was diagnosticated to be of tuberculous nature. He decided to scrape and cauterize the lesion and to use cocaine anæsthesia during the operation.

"In order to produce anæsthesia, he had fifty grammes of a five per cent. solution of hydrochlorate of cocaine prepared : of this thirty grammes were brought into use, containing exactly twenty-four Russian grains of the salt, or twenty-three English grains—the Russian grain is exactly one-sixteenth of a gramme—six grains being injected at a time into the rectum. After the third of these injections, it was found on examination that the part was still sensitive. A speculum was then introduced, the ulcer dabbed with a dry sponge, and then the fourth injection given, making twenty-four grains in all. After this the parts were tolerably anæsthetic. The ulcer was scraped and a tampon saturated with oil inserted. The pulse was then accelerated. During the operation the patient groaned, so that even the twenty-four grains had not produced complete anæsthesia.

"After the operation Kolomnin went round his ward, and in three-quarters of an hour a message was sent to him that the patient was very low. He found the pulse very weak, the face and hands cyanotic, and the respiration labored. He considered that she was in a toxic state, and used every means to bring her round, Prof. Sushchinski being also invited to a consultation. Faradization, artificial respiration, hypodermatic injection of ether, administration of ammonia, tracheotomy for the inhalation of oxygen, stimulating and nutrient enemata—all were tried, but without success. Kolomnin had no doubt that death was due to cocaine."

Dr. W. H. Long, U. S. Marine Hospital Service, reports in the *American Lancet*, the case of a man aged thirty-three, to whose larynx he applied, three times, a four per cent. solution of cocaine. Prompt relief was given, but three and one-half hours later the patient was found unconscious ; breathing labored ; respirations twenty ; pulse ninety ; general condition one of profound anæsthesia. Diagnosis, cocaine poisoning. Several doses of whiskey were given subcutaneously. In half an hour consciousness partially restored, then gradual and full improvement save a feeling of great exhaustion.

Four days later cocaine was again used. Thinking the former toxic effect due to swallowing some of the solution, and probable absorption by larynx, extra precaution was taken to have it expelled and the pharynx well rinsed. Two applications of a two per cent. solution were made. Relief was again complete, but three and one-half hours after patient was in the same condition as before, except the anæsthesia not so profound. Frequent injections of whiskey were again used with partial success—could swallow and answer questions—but, soon after, he suddenly ceased to breathe. The heart beat a short time longer. All efforts at resuscitation failed. The probable immediate cause of death was paralysis of the respiratory centre due to cocaine.

Dr. F. M. Thomas, Leonardsville, Kansas, reported to Prof. R. Ogden Doremus, as follows:

"Friday morning, October 23d, 1885, I was called to see Mrs. ——, aged thirty-nine, whom the messenger reported as dying. I found her unconscious; breathing heavily and irregularly; pulse thirty-five, intermittent; temperature normal; left pupil largely dilated, right natural; right arm and lower limbs motionless; face spasmodically drawn upwards toward the dilated eye.

"Spasmodic action of the left arm and upper part of the body came on regularly at intervals of a few minutes, during which she clutched the bed-clothing, and seemed to be trying to vomit. Twice during my attendance she ejected small portions of the previous evening's meal. Salivation was excessive; retained a dorsal decubitus; would not lie on either side. Heart seemed almost exhausted.

"I saw her at 5 A. M., and was with her nearly all the time till she expired, apparently completely exhausted, about 8 : 30 A. M."

On inquiry, the Doctor learned that Mrs. —— had been freely using a four per cent. solution of cocaine for toothache due to several much decayed left upper molars. His diagnosis was cocaine poisoning.

Dr. Knabe, of Berlin, records the case of a girl aged eleven, who was given four to twelve drops—the exact amount was not determined—of a four per cent. solution of cocaine, by injection over the deltoid, to remedy frequent fainting fits—she having cardiac degeneration, sequeling scarlatina. In less than forty seconds the girl took a deep breath, became deadly pale and dropped unconscious. One minute later she was dead.

In the Australasian *Medical Gazette*, August, 1886, Dr. W. E. Ramsden Wood reports this case :

"A. B. suffered from neuralgia due to a defective tooth. Extraction being impracticable, cocaine—amount not stated—of a ten per cent. solution was injected, with prompt relief, lasting some hours. Next day the pain, being very severe, patient sent to his chemist for a similar solution, and three minims were injected, but without the desired effect; he returned it to the chemist and asked him to make it stronger, which he did, making it twenty per cent. He brought this to me, but omitted to tell me that the solution was double the strength of that which I had used. He told me that three minims had not given him the relief that he had experienced from mine; I therefore gave him four minims of what I believed to be a ten per cent. solution, and within five minutes he became restless and inclined to vomit; he then began to feel a sensation of pins and needles in the left hand and arm, which rapidly extended to the right side. This was speedily followed by contraction and rigidity of the fingers, arms and legs; there was also a tendency to opisthotonos. His pulse became extremely rapid and feeble, his face livid and the muscles of his mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very shortly became cold, and a profuse perspiration broke out on his head and face.

I first gave him half a tumbler of brandy, followed at short intervals by drachm doses of spiritus ammon. aromatic, and applied strong mustard over cardiac region, and used friction to the upper and lower extremities; at the same time I let him inhale a few drops of chloroform to try and check the spasmodic contractions. After continuing these remedies for nearly an hour the pulse began to improve, the color to return to the face and the rigidity of the muscles lessened, but returned immediately I stopped the friction. At the end of two hours he improved more rapidly, but felt somewhat drowsy, and it was not until about four or five hours that all the symptoms had subsided.

On questioning him afterward regarding his sensations, he told me that although he was unable to speak coherently, he knew all that was passing, and it was not until he felt the abdominal muscles becoming rigid that he felt anxious, for then he thought he was dying, and a sensation of suffocation came over him."

Dr. T. H. Burchard, in the *Medical Record*, December 5th, 1885, reports a case in which he injected ten drops of a four per cent. solution to induce local anæsthesia before removing a needle from the foot. "In about four minutes my patient suddenly clutched his throat, exclaiming, 'I am dying!' and fell from his bed unconscious. Respiration ceased, his jaw dropped, his eyes rolled upward, and to all appearance he was dead. His heart was beating very faintly, although his radial pulse was imperceptible." Artificial respiration, hypodermics of ammonia and atropia, alcohol, sinapism over heart and hot bottles were employed, and in "fifteen minutes after the catastrophe his pulse was about forty-eight, very feeble, and respirations seven to eight. Unconsciousness continued twenty minutes." Patient recovered.

Dr. Spear, U. S. N., in the *Medical Record*, reports the case of a man aged twenty-nine, who took, subcutaneously, within seventeen hours, to remove the effect of a rum debauch, nearly ten grains of cocaine, Squibb's make. He was found in a toxic state; unconscious; face congested and whitish grey; hands and lips blue; pulse feeble, fluttering and uncountable; respirations slow and almost imperceptible; face and neck streaming with sweat and body bathed in cold perspiration. Under treatment, in about ninety minutes he began to be conscious and gradually recovered.

C. S. Kilham, L. R. C. P., Sheffield, England, read before the Sheffield Medico-Chirurgical Society, November 25th, 1886, this case: On November 9th, 1886, at twelve noon, John B—— accidentally took four and four-fifth grains of cocaine hydrochlorate in the form of solution. At 12 : 30 he was seized with severe cramps in the stomach, nausea, throbbing and feeling of bursting in his head, failure of eyesight, loss of use of his legs, incoherence of speech and confusion of ideas, and drowsiness, but could always answer questions when aroused. No delirium; appeared as if drunk and got quite helpless. Brandy was given to him, and he vomited after it, but only the remains of food. About 12 : 50 he commenced sweating most profusely, shirt, etc., being soaked through, perspiration streaming down his face and body, and his head steaming. Pupils were normal and equal. No loss of taste. The sweating lasted sometime, and was succeeded by very severe prostration, shivering and feeling of impending death. At intervals the patient had severe cramps in the stomach with retching and vomiting of a quantity of clear mucus, which relieved the pain. About 1 : 15 P. M. the pulse became intermittent—missing every fifth beat. This was accompanied by cyanosis of the face and intense feeling of suffocation over the cardiac region. Relief was afforded by sinapisms. About 1 : 45 P. M. he began to have cramps in the legs and feet—especially on dorsal surface of right foot—and tingling and numbness in both hands. Later on the pupils became dilated. The vomiting and cramps ceased about 4 P. M.—unless food were taken—but the drowsiness, throbbing of head and prostration continued up to 6 P. M., when the patient began to get warm and feel relieved. The improvement continued, and he could be moved at 8 : 30 P. M. There was great weakness, with swimming of head all night.

Next day there was still weakness, continual vomiting, a dry, leathery feeling in the mouth, with loss of taste, partial loss of power in the legs, and tingling and numbness of the fingers, especially of the right hand. These symptoms commenced nearly thirty-six hours after taking the cocaine, and most of them disappeared in twenty-four hours. The loss of power in the legs lasted three days, and the tingling and numbness of fingers longer. He was not able to write a letter until the sixth day, as he could not feel the pen between his fingers before.

An emetic was first given, with sinapisms over the heart and stomach; afterwards warmth and stimulants—principally compound spirit of ammonia.

The patient was in the habit of taking one-fourth grain of cocaine for neuralgia of the stomach. The most remarkable symptoms were the severe sweating, the intense prostration and the intermittent pulse.

Dr. George Elder, Nottingham, Eng., in the *Lancet*, October 30, 1886, says: "Preliminary to opening a superficial abscess, twelve minims of a freshly-prepared ten per cent. solution were injected under the skin; three or four minutes after syncope intervened, followed by twitchings of the face, falling of the jaw, coldness of the body, clammy perspiration, lividity of the face—in fact, all the appearances of imminent death. The patient was several minutes in recovering consciousness, and during the remainder of the day felt very prostrate." Dr. E. adds: "Several similar occurrences have been noted, showing that cocaine is not so innocuous as has been generally supposed."

James Leslie Callaghan, in the London *Lancet*, June 12, 1886, reports as follows: "A patient of mine who was suffering from toothache resulting from a hollow tooth, applied some of a four per cent. solution of hydrochlorate of cocaine to the tooth and gums. He did not spit it out, but, according to his story, swallowed from twenty to thirty drops. Within half an hour he was seized with a feeling of faintness and giddiness, then an attack of palpitation of the heart came on, and he complained of tingling and numbness, dryness of the throat and a sensation of heat and flushings moving over the body, but especially on the spine. Suddenly a rash, like scarlatina, made its appearance over the body; vision was somewhat dimmed. I immediately gave him a strong dose of mustard and warm water, which did not cause emesis. I then administered twenty grains of sulphate of zinc, but without effect; it was only by repeating the dose that vomiting took place. The patient was relieved for a few minutes and seemed brighter, but the symptoms soon returned, and he felt so weak that he thought he was dying. I held some strong ammonia to his nostrils, but he said he could not smell it. I kept walking him about, but his legs tottered so much I had to support him. He constantly felt a desire to have the use of his bowels and bladder. The pulse became fast, weak and intermittent; the mind remained clear."

Dr. Frederick S. Williams, of Puyallup, Washington Territory, reports in the *Medical Record*, September 25, 1886, this case: A lady on whom he wished to operate for a lacerated cervix, had a pledget of cotton saturated with a twenty per cent. solution of cocaine placed over the cervix, and four minims of the same solution injected on each side of the wound. "In about a minute and a half the patient began to speak as with an effort, saying: 'I feel so faint,' and gasped as if struggling for breath. She was immediately placed on her back, with head lowered, and told to breathe deeply. She obeyed for a few times, then recommenced her gasping, which she continued for about a minute. Then followed shallow breathing for four or five minutes, when she began to rally a little, and the breathing became gradually stronger but irregular.

"Her pulse at first was very rapid, irregular and weak, then became during most of the time of the shallow breathing almost imperceptible, gradually returning with the approaching normal respiration.

"Consciousness at once was dulled, and during the period of the shallow respirations was completely lost.

"At the end of about ten minutes she rallied, pulse, respiration and consciousness becoming normal."

Myerhausen relates the case of "a girl, twelve years old, in whom two drops of a two per cent. solution were instilled in the conjunctiva four times, at intervals of five to eight minutes. In all, only a little over one-tenth of a grain was administered, of which, certainly, one-half must have been lost through the tears. Immediately after the operation the child commenced to complain of headache, which became more and more severe until it was almost unbearable. Nausea and vomiting persisted through the entire day. The patient was greatly prostrated; stumbled in walking; speech was almost entirely destroyed, as though the tongue were paralyzed. These symptoms of poisoning lasted all through the night, in which no rest was possible, and gradually disappeared towards the evening of the following day."

Dr. Robert Newman, of New York City, kindly sent me this report: Patient, a female, aged thirty-seven, was treated for chronic cystitis by washing out and dilating the bladder daily. To allay the pain, fifteen minims of a four per cent. solution of cocaine were injected per urethra. This, increasing the drug a little each day, was used three times. After the third injection, while the cystic pain was allayed, a severe headache ensued, which persisted for several hours. On the fourth day, having increased the cocaine to twenty-five minims, "while still washing out the bladder with *hot* water, a piercing pain in left temple occurred, running round the back of the head in a circle, and feeling as if the top of the head would split open. Pupils dilated; expression anxious; restlessness marked. More than a week passed before all toxic traces ended. There can be no doubt cocaine caused the trouble, and the symptoms were alarming."

In the London *Lancet*, 1886, is recorded the case of a female, aged twenty-five, who had a watery solution containing fifteen centigrammes of hydrochlorate of cocaine injected into the nose. In twenty minutes giddiness, weakness and impaired vision ensued. A little later she was semi-comatose, with slight dyspnœa and pulse uncountable. These symptoms disappeared in three hours under friction and internal stimulation.

Dr. Schilling, in the *Pharmaceutical Journal*, records a case in which the injection of six drops of a two per cent. solution into the gums of a woman, aged twenty-six, to prevent pain of extracting a molar, was followed by toxic symptoms, of which facial rigidity, deafness, blindness, complete loss of motion and sensation, and unconsciousness for a half-hour were the chief. They subsided after inhaling nitrite of amyl.

Dr. Heyman reports a case in which the effects following the use of cocaine closely resemble that noted by Myerhausen. The patient, a boy, had a solution of cocaine liberally applied to his pharynx and larynx. Toxic symptoms soon set in. He was apethetic with speech and walking disturbed. Pulse and respiration increased. Temperature rose to 100¾. Five hours after patient could not walk. Symptoms persisted ten hours.

Dr. Schwarzbach, Australasian *Medical Gazette*, January, 1886, reports the case of a lady who used cocaine, locally, for pain in the eye. She suddenly became very ill; stupor, pallor, slow pulse and cold perspiration. Under wine and strong coffee recovered in a few hours.

G. Bockl observed alarming effects follow an injection of six drops of a two per cent. solution into the gums. In ten minutes patient became unconscious, with gaze fixed, vision defective and delirium. Nitrite of amyl gave relief.

Dr. Landesburg, of New York City, used two grains subcutaneously, as an experiment, on himself. In less than two minutes he felt his heart beating violently and blood rushing to his head, quickly followed by fullness and roaring in the latter, and noises in the ears. Thought was confused, volition impaired. Great restlessness, and numbness with twitchings were felt in toes and fingers. Nausea and epigastric pressure marked. Face very pale and covered with cold sweat. Pulse feeble, eyes sunken, pupils dilated, vision dim. In thirty minutes took to bed with nausea, headache and general prostration. Recovery followed a night's sound sleep.

Drs. Bardet and Meyer, assistants of Dujardin-Beaumetz, anæsthetizing, for experiment, their own skin, observed, half an hour after the injections, dilated pupils and comatose symptoms. One of them fell in a state of vertigo, with pallid face and extreme heart weakness. These toxic symptoms followed hypodermic doses, never exceeding one-third of a grain.

Dr. Ziem, of Dantzic, in 1885, reported a case in which a solution applied to the eye caused pallor and embarrassed breathing, and said that, up to that time, seventeen cases had been cited in ophthalmological literature, in which toxic effects followed the use of cocaine. In three by injection; fourteen applied to the eye. Pallor, giddiness, dyspnœa, malaise, apathy, great prostration, tottering gait, difficulty of speech, mental confusion and extraordinary restlessness were symptoms noted in both strong and feeble men and women.

Dr. G. W. Kennicott, in the Chicago *Medical Journal*, October 20, 1885, reports: A young woman, aged twenty-five, of good constitution, had been using, per medical advice, a two per cent. solution of cocaine for hay fever. The supply becoming exhausted, she procured two 5-grain vials of the muriate, full strength, and applied two-thirds of the contents of one bottle to both nostrils with a small glass insufflator. In twenty minutes she became dizzy, vision dark, and a sinking sensation occurred, with great weakness, In half an hour she was semi-comatose, pulse scarcely countable, so rapid and weak; pupils widely dilated; speech and swallowing difficult; dyspnœa; nausea; throat dry; teeth chattered, and she shivered with cold. Later, drowsy; eyes closed; face-muscles affected; weakness extreme—she could not support her head. She recovered in three hours under brandy, ammonia, digitalis, heat to epigastrium, and heat and friction to extremities.

Dr. George J. Engelman, in the *Medical Review*, June 13, 1885, records these cases: Mrs. C., aged twenty-eight, in fair health, at 5 P. M., took one-sixth of a grain by the mouth; one hour later this dose was repeated, and soon after she felt a tingling in her fingers, hands and wrists, with discomfort and oppression about the chest, and vomiting the moment she turned in bed. At 7:30 she took a third dose, same amount, and in fifteen minutes was excessively restless, great difficulty of breathing, tight, band-like feeling about chest, faint, and felt as if dying. At 8 o'clock still faint, was dyspnœaic, and tingling had extended to feet and legs. At 8:15 tingling gave way to numbness, beginning in hands and extending to feet; "became perfectly still, as if breathing her last;" quite numb and stiff; thumbs adducted; pulse feeble, frequent, irregular and intermittent. These toxic symptoms subside after one-sixth of a grain of morphia, hypodermically.

Mrs. F., aged thirty-five, enciente, took forty drops of a four per cent. solution to relieve nausea. Immediately she felt a complete numbness along the tongue and throat; to test the feeling, she bit her tongue and found it perfectly numb. She became weak, perfectly relaxed, with oppression about the heart, and felt as if dying. In twenty minutes the entire body became cold and numb. Pulse feeble and very rapid. Heart felt as if constricted by an iron band and "hammered loudly at a fearful rate." Symptoms persisted several hours.

Dr. Litten, at a meeting of the Berlin Medical Society, November 4, 1885, in a debate on the action of this drug, cautions against its too general use. He said that among other ill effects known to occur after an injection are attacks of mania, sometimes very violent, which may prove dangerous; and he asserted the various toxic effects, in some individuals, reach such a high degree that actual danger to life seems to threaten the patient. The three cases next cited are of interest in this regard.

Dr. George T. Stevens, *Medical Record*, January 17, 1885, reports that he injected four minims of three and one-half per cent. solution under the conjunctiva of a strong man. In eighteen minutes "violent convulsions set in, attended with desperate struggles to breathe. The face became livid, consciousness was lost, and the patient became uncontrollable. After struggling in an easy chair for sometime, he arose in a state of frenzy and struck violently about. Stimulants were administered, and the most alarming stage of the paroxysm ceased after a duration of nearly twenty minutes. Fully half an hour, however, passed before we could regard our patient as beyond danger. I believe that this paroxysm was the manifestation of the toxic influence of the drug."

Dr. Robert Newman, of New York, has reported to me the case of a gentleman, aged forty, in whose urethra a physician injected one drachm of a cocaine solution—strength not stated—prior to cutting the meatus. In half a minute, patient's face flushed, he felt a general pricking sensation, followed by a piercing sting in his temple, violent headache and great excitement. Then he became maniacal, and, under the delusion that he had been attacked by a robber, sprang from his seat, seized the doctor by the throat and began to beat him. The delirious excitement persisted three hours.

A well-known physician of this city gave me his experience with cocaine. Suffering from an attack of otitis media, he used freely, by advice of his medical attendant, a ten per cent solution in the ear. It caused flushed face, quickened pulse and breathing—the former 130—wild look, fixed gaze, hallucinations and delusions—the latter homicidal—attempting assault on a near relative—which persisted three hours, followed by decided depression.

Dr. J. P. Knoche, in the Kansas City *Medical Record*, December, 1885, reports the case of a man, aged twenty-three, to whom he gave cocaine, hypodermically, for anæsthesia, using, in several injections, within thirty-five minutes, about two and two-fifth grains. In seven minutes patient was cold, and sensation lost in hands, forearms, chest and legs. In twenty minutes breathing was difficult, interrupted, sighing. Pulse almost imperceptible, intermittent and very rapid; lips and skin generally pale and cold. Patient was semi-comatose for a time. Numbness in extremities lasted four hours; imperfect palmar sensation ten hours. Nine hours after severe renal pain and copious diuresis; the tremor and weakness continued twenty-four hours. Symptoms gradually decreased under free alcoholic stimulation.

Dr. H. J. Boldt, New York City, reports four cases of toxic symptoms from cocaine injections. He injected fifteen drops of a four per cent. solution to relieve an attack of supra-orbital neuralgia. Immediately patient's face became red, dizziness, dyspnœa, pulse frequent and feeble and feeling of oppression about heart. In three minutes patient fell unconscious and breathing ceased, so that, for fifteen minutes, artificial respiration was required. Then respiration returned, but only five or six per minute, deep and sighing. Heart sounds and pulse very weak and frequent; pupils widely dilated; gaze fixed. Shortly before and directly after return of consciousness, convulsive twitchings of upper extremities. Ten minutes later speech was confused and incoherent. In an hour patient was able to walk, but gait was groggy. Neuralgic pain did not return for three days. At the patient's request ten drops of the same solution were again injected and like symptoms resulted, but were not so prolonged. Five or six drops of this solution in this patient caused flushing, dizziness and dyspnœa, with constricted feeling about chest continuing half an hour.

II. Female, aged thirty-three. Eight drops of a four per cent. solution were injected for local anæsthesia prior to operation for lacerated cervix. It caused flushing, followed by dizziness, dyspnœa, nausea, deathly pallor and cold sweat. Pulse frequent and feeble; pupils dilated. Symptoms subsided in half an hour, leaving patient so weak that operation was deferred.

III. Female, aged thirty-three. Neuralgic headache. Eight drops of four per cent. solution were injected over greatest pain, causing dizziness, dyspnœa, quick, weak pulse, distress in chest, especially about heart, deathly pallor, nausea and sweating, persisting more or less for forty-five minutes.

IV. Female, aged twenty-six. Five drops of a five per cent. solution, caused, three minutes after injection, giddiness, palpitation, quick pulse, languor and temperature rise to 100 8.10 in fifteen minutes.

Dr. F. De Havilland Hall, London, reported the case of a lady, aged fifty-six, to whose nostrils he applied a ten per cent. solution by spraying. In a few minutes patient complained of cramp-feeling in throat; became very excited; face ashy hue; hands cold; pulse very frequent, and distress was so great that chloroform was given, which relieved the spasm, but she was not able to leave until after four hours.

Knapp noted headache, vertigo, nausea, tottering gait, skin pallor and cold sweat from hypodermic injection of thirty-five drops of a four per cent. solution, with instillation of a few drops of the same in the conjunctival sac.

Reich reported two cases, both females, aged ten and sixty, in which toxic symptoms followed the use of fifteen drops of a two per cent. solution.

Bellyarminoff, of St. Petersburg, observed five cases in which a four per cent. solution to the eye caused headache, vertigo, nausea and vomiting.

Alexander Thompson, M.B., Huntly, Eng., reported this case: He applied a few drops of a fresh two per cent. solution to the conjunctiva of W. R., aged twenty five, perfectly healthy, prior to removing a fragment of steel. In two minutes patient became deadly pale, reeled and would have fallen if not supported. Was quite pulseless, and, with difficulty, was brought round. Fully half an hour passed before he could go home, and even then was giddy.

Dr. Grosholz, Towyn, Eng., observed a healthy farmer to whose eye three drops of a four per cent. solution were applied, causing pallor, profuse sweating about head and neck, irregular pulse, embarrassed respiration and impending syncope. A stimulant was given, but it was several minutes before the pulse became regular and consciousness was regained.

Dr. Edward Bradley, of New York City, noted this case: A professional gentleman, in perfect health, had a four per cent. solution freely used in the filling of a carious tooth. Toxic symptoms soon appeared, the most noted being facial paralysis on the right side. "This condition undoubtedly began its development much earlier than the time of its discovery, as it went on its course of extension for the two succeeding days, involving every function on the right side of the head, rendering me deaf and unable to close the eye. The brain was depressed so as to destroy all continuity of thought, and I was unable to read or exercise any mental function whatever." The paralysis remained stationery ten days, then slowly lessened, but had not entirely gone at the end of six weeks.

Smidt, Ranc, Obersteiner and Blumenthal have noted, after an injection of cocaine, dizziness, agrypnia, muscular twitchings, increased reflex excitability, hallucinations and mania.

Dr. Charles H. Hughes, of St. Louis, editor of *Alienist and Neurologist*, wrote me: "I know of a case where one grain of cocaine paralyzed the heart so effectually that the pulse became imperceptible for a few seconds, and only my presence with my battery, which was in the room, and ammonia, and a morphia and a strychnia hypodermic saved the patient."

Germane to the subject of acute cocaine toxæmia is that of cocaine addiction—these notes are preliminary to a more extensive paper on cocaine inebriety—the existence of which Dr. Hammond denies. He took a half dozen doses, at intervals of one to four days, and says "he acquired no habit." But to argue from that no danger of addiction, is absurd. Such evidence is worthless. Dr. Hammond might do the same thing with morphia—more, he might take morphia subcutaneously, daily, for a month or two, without creating a "habit"—albeit its ensnaring power is well admitted—and yet that would not prove its freedom from danger. Not at all; it would merely show his exceptional strength to resist—many, under a like pressure, would surely succumb.

Supporting this opinion, I quote from the last report of Dr. Orpheus Everts—Cincinnati Sanitarium—a gentleman well-known in alienistic circles—which report was kinldy sent me after my paper was written—who says: "A distinguished physician of New York has recently reported personal experiences tending to discredit the claim that a cocaine habit, corresponding to the morphine habit, is acquirable. The judgment of this distinguished physician is based upon the evidence of personal experience reported by himself, he having failed to acquire the habit, or any especial fondness for the specific effects of the drug, experienced by the hypodermic injection of one, two, three, and finally eighteen grains of the salt, on five or six different occasions in the evening before going to bed.

"But for the great reputation of this physician as an author and observer of facts, this denial would have but little weight. The testimony is both bad and insufficient. Bad, because reported by himself—the testimony of an intoxicated person respecting his experiences while intoxicated being proverbially untrustworthy—and insufficient, because the experiment was not continued long enough. Many instances might be cited of total failure to establish the morphine habit or habitual drunkenness, by the use of six or seven doses of morphine, or six or seven drinks of whiskey, one a day for six or seven days in succession. It is often the case that such experiences end with disgust for the drugs used, instead of a desire to continue their use. There is also much and accumulating testimony, by competent observers, to the fact of such a habit as is alleged, respecting cocaine, which a single opinion will not invalidate, however worthy of consideration."

Cocainism is not the outcome of using the drug at long intervals. Its transient effect and the demand of an impaired nerve status compel frequent taking—more than alcohol or opium—so that habitués have been known to take it ten, twenty or more times daily, and it is this—growing by what it feeds on—that tends to create and continue the disease.

In the early days of chloral one point claimed in its favor was a freedom from risk of "habit," a claim long ago exploded, as cases of chloralism well prove, and yet, I venture to assert, there are more cases of cocaine-taking in this country to-day, less than three years since its arrival, than of chloral after a period more than six times as long.

Dr. Hammond says there may be instances of cocainism as rare as chronic tea-taking, and of cases with or after habitual alcohol or opium using, but, as for quitting the drug, he believes every cocaine-taker could if he would.

The same opinion regarding opium obtains among some medical men, and the only effective argument against such a fallacy is to place those who hold it under power of that drug, and then have them prove their precept by their practice.

While admitting that most instances of cocaine-taking are, for obvious reasons, in those who have been, or are, alcohol or opium habitués, especially the latter, I maintain there are cases of pure, primary addiction, and that the number is increasing at home and abroad. Foreign writers have noted them, and they will figure in our records. Notes of one such are here given; others are at command.

I am indebted to the courtesy of Dr. J. E. Clark, Professor of Chemistry, Detroit College of Medicine, as follows: "In July, 1885, a young man applied to me for relief for what he called a 'severe and persistent case of hay-fever.' He had consulted a large number of physicians without obtaining relief from the irritating and annoying acrid discharge from the nostrils. He claimed he only wished relief for a time until he could make arrangements to leave for the West, as he had lost hope for anything like a permanent cure in this climate.

I prescribed the following:

℞.—Cocaine muriat.	Eight grains,
Aquæ camphoræ	Six drops,
Aquæ destill	One ounce,

with directions to pour a small quantity in the hand and snuff occasionally.

Three or four days later he appeared at my office, his face radiant with hope that he had found a specific, and remarked that "he had felt better the last few days than for a year." He had exhausted his medicine, and I consented to his having the prescription refilled. I heard no more of the case until one day in November I was in a drug store, and was asked by the proprietor, 'do you know Mr. —— is using about eight dollars' worth of cocaine a week'? I expressed my astonishment, forbade any further sale, and at once called, but failed to find the young man. I then drove to his parents' residence and asked them if they were aware of their son's excess in this matter. They did not know of his addiction to the cocaine, but had noticed for sometime peculiar symptoms which alarmed them. I explained the circumstances fully, and added my belief that no serious results would ensue provided total abstinence should follow. The sequel shows, however, the 'habit' had gone too far to be easily eradicated as the young man went on until he became temporarily insane, had to retire from his business and be under strict supervision until the craving disappeared, a space of about three months." The doctor adds: "This case has furnished me such *vositive proof* of a lurking danger in the use of cocaine, that all the negative evidence or hypothetical assumptions published, or adduced, cannot have the least impression in causing me to relax for an instant the most rigid supervision of every patient to whom I in any manner administer or apply the drug."

The following report, kindly sent me by Dr. Douglas Schoolfield, Newport, Ky., well shows the ill effect of cocaine on patients addicted to morphia:

Mr. —— had been an opium habitué for several years, from morphia given subcutaneously to relieve sciatica.

In May, 1885, taking ten to fifteen grains daily, with nervous and digestive systems impaired, but weight nearly normal and mind clear and vigorous, he came under the doctor's care. Cocaine being then in rising repute as a cure for morphia-taking, he was given half a grain, subcutaneously, knowing, unfortunately, what it was. Nausea, pallor, rigors and cold sweat soon ensued, followed by flushed face, brightened eyes and a feeling "never so good in all his life." He was delighted, talked incessantly and declared himself, mentally, the peer of Spurgeon; physically, equal to Samson. The stimulant effect continued two hours, followed by lassitude and sleep. The cocaine was given at irregular increasing intervals for two weeks, when an effort was made to quit. Two days later he left for a summer resort and was lost sight of. The next heard of him was through the town druggist, who remarked that he thought Mr. —— must be "getting a 'corner' on cocaine," as he had ordered his entire supply and the address of his wholesale house. He was written to and urged to place himself under proper medical care; but no more was heard of him for two months, when the Doctor was sent for, told he had been brought back and given this history: On starting for his summer trip he procured a supply of cocaine and began taking it himself several times a day. In a few days he talked and acted strangely, slept little, appetite failed and he grew worse daily. An effort was made to withhold it or substitute morphia, but he resisted both and raved like a madman. He had always been kind and even-tempered, but now became irritable and abusive; had hallucinations and homicidal delusions; would leap from bed, rush to a window, raise sash and gesticulate wildly at a fancied foe. Calmed, he would be quiet a time, and then break out in the loudest abuse of some friend present, declaring him in league with the devil for his harm.

The Doctor was warned as to entering his room, and proceeding with care, patient was found in fighting form, with a long-necked bottle ready for battle. Addressed kindly, his suspicions were disarmed, he abandoned his hostile attitude, apologized and declared himself quite mistaken. "His condition was pitiful indeed. Constant vigil and loss of sleep had made him a wreck. He was pale, thin and haggard; ate nothing and slept none; was a prey to distorted fancy, a victim of unrest."

Under proper treatment he partially recovered, and was placed in Sanitarium care. Six weeks after was discharged, but in bad mental condition, morose and melancholic. He soon became violent and threatening, and was again taken to an asylum, where he now is, improved and improving.

My experience with a number of cocaine cases makes, to me, two things certain—there is a pernicious power *per se* in this drug, and it finds in the opium habituè a peculiar condition that specially favors its ill effects, making it, for such patients, as has well been said, the "Devil's own device" to still further enslave.

And this opinion is that of others, for it is the testimony, without exception, so far as I know, of those who have had to do with this disease, that as an intoxicant cocaine is more dangerous than alcohol or opium, and that inebriety resulting from its use is more marked and unyielding than any other form.

Dr. Shrady, editorial, *Medical Record*, November 28th, 1885, says: "To some persons nothing is more fascinating than indulgence in cocaine. It relieves the sense of exhaustion, dispels mental depression and produces a delicious sense of exhilaration and well-being. The after-effects are at first slight, almost imperceptible, but continual indulgence finally creates a craving which must be satisfied; the individual then becomes nervous, tremulous, sleepless, without appetite, and he is at last reduced to a condition of pitiable neurasthenia."

Dr. Alexander B. Shaw, Physician to St. Vincent Asylum for the Insane, St. Louis, asserts: "Once a man flies to cocaine for relief from 'cares that annoy,' he generally continues with such rapid strides towards such complete subjugation to its bewitching thraldom as but few will ever be rescued from by any power of will which they may be able to bring to their aid."

Dr. Everts writes: "It is not only not an antidote to opium poisoning—or, more properly speaking, the organic demand for such drug effects as have been acquired by use—but is itself a fascinating and dangerous intoxicant, the effects of which may be more difficult to counteract and renounce than are those of opium or its derivatives."

Dr. Hughes declares i "a remedy to be used with extreme caution and prudence internally, and the large doses reported as having been given are not ordinarily safe. It will bear watching. It crazes and kills quicker than opium. The possibilities for immediate harm are not only great, but the likelihood of remote damage when tolerance is established is not small. The cocaine habit, more pernicious than the morphine neurosis, is the certain entailment of its frequent administration and its thraldom is far more tyrannical than the slavery of opium."

Erlenmeyer calls cocaine the third scourge of humanity—alcohol and opium being the first and second—and Erlenmeyer is right as to toxic neuroses He says: "Its characteristic effects are vaso-motor paralysis, accelerated pulse, profuse sweats, dyspnœa and syncope, failure of general nutrition, eyes sunken, skin cadaveric, with mental trouble that sometimes needs restraint," and I am positive, from cases under my care, that he is correct.

I think it, for many, notably the large and enlarging number of opium and alcohol habituès, the most fascinating and seductive, dangerous and destructive drug extant; and while admitting its great value in various disordered conditions, earnestly warn all against its careless giving in these cases, and especially insist on the great danger of self-injecting, a course almost certain to entail added ill.

To the man who has gone down under opium and who thinks of taking to cocaine in hope of being lifted out of the mire, I would say, "don't," lest he sink the deeper.

I have yet to learn of a single instance in which such an effort reached success; but know many cases where failure followed, or, worse, cocaine or coca-morphia addiction.

And the need of caution against free and frequent using obtains in other cases, for there may come a demand for continued taking that will not be denied.

To summarize:

Cocaine may be toxic, sometimes deadly, in large doses.

It may give rise to dangerous, or even fatal symptoms, in doses usually deemed safe.

The danger, near and remote, is greatest when given under the skin.

It may produce a diseased condition—in which the will is prostrate and the patient powerless—a true toxic neurosis, more marked and less hopeful than that from alcohol or opium.

Such being my belief, I regard Dr. Hammond's statements mistaken and his conclusions rash and dangerous.

TRACHEOTOMY IN DIPHTHERIA.—After discussing the time at which this operation should be resorted to, in the *British Medical Journal*, March 5, Dr. W. Watson Cheyne thus concludes: "It will be evident that the object of this paper is not to recommend the application of any particular antiseptic substance in this disease, but to raise the question of the indications for performing tracheotomy in diphtheria. And I believe more lives will be saved by opening the trachea early, as soon as the larynx is evidently attacked, and by attempting to prevent the spread of the membrane downwards, than by delaying the operation till the symptoms of obstruction are marked. The probable advantages, I think, more than counterbalance the possible dangers, for, apart from the advantages generally admitted to attend early tracheotomy, there is the further advantage that there is a possibility of arresting the spread of the disease, and also of applying medicaments to the larynx."—*Medical and Surgical Reporter*.

SELECTED PAPERS.

ACUTE LARYNGITIS IN CHILDREN.

Dr. Arthur Foxwell contributes to the *Birmingham Medical Review* a most valuable article on the above subject, from which we take the following:

In dealing with acute laryngitis, as it affects children only, there are three varieties where diagnosis of the true condition is extremely difficult, and where, unfortunately, this is of very great practical importance. These are (1) That arising in diphtheria, where the faucical lesion is but slightly marked and the laryngeal symptoms arise early; (2) Catarrhal laryngitis, arising at the outset of an attack of catarrh or morbilli; (3) Membranous laryngitis, arising in the same manner as the catarrhal form. In attempting their diagnosis I will, to avoid repetition, state the diagnostic points of positive value only.

1. In the first variety the history is one of gradual onset, usually at least three or four days. "About Monday he began to mope," says the mother, "and went off his food." Yesterday the difficulty of breathing was first noticed; this was not then severe, nor did it seem greatly to trouble the child, but the difficulty has steadily increased; and on inquiry you may find he has mixed with one or two others, adults or children, who have suffered from sore-throat. There is marked asthenia. You can hear but little air entering the bases of the lungs, yet there is no cyanosis nor strenuous effort to conquer the obstruction. The appearance of the face, and, indeed, the whole body, is one of gray pallor rather than lividity. The tongue is dry and brown, while the bowels tended more to looseness than constipation. The pulse is small, of very low tension, and very little disturbance alters its rate of beat. Pyrexia there is none, or but one degree or so. The urine has a thick cloud of albumen. The fauces, whether membrane exist on them or not, are but moderately inflamed, and there has been little or no history of painful swallowing.

2. The onset of laryngeal symptoms in catarrhal laryngitis is sudden and sthenic; the child has in no way ailed, or merely had a slight cold; he has not been ill enough to keep in bed or away from school

These are the cases to which one is hurriedly called at night, for often the child wakes with a fit of crowing. Nearly always can you obtain from the mother, excited though she be, accurate information as to the hour or half-hour when dyspnœa first arose. This may not be the first or second paroxysm, and you may be told that no symptoms of ill health existed in between. There may have been previous attacks long since; the parents or a brother or sister may have similarly suffered. The patient is evidently in the throes of an urgent sthenic disturbance; the countenance is flushed, the eyes staring and bloodshot. Though the quantity of air entering the lung bases may seem to your ear far larger than was the case in the child with diphtheria, yet are most strenuous efforts made to increase this amount; the lower ribs are violently drawn in, the nostrils dilated, the chin thrown out, and all the voluntary muscles brought to bear. Cyanosis is beginning, but yet pyrexia runs high and the pulse is full and bounding; later, it is true, when cyanosis is advanced, the temperature drops and the pulse becomes slow and asphyxial. The fauces are acutely inflamed, the tonsils being usually much swollen, and deglutition is extremely painful. The tongue is clean and too red, or toward the base is a thick white fur, while the fungiform papillæ are unduly prominent near the tip. The bowels are confined. In the urine is but a trace of albumen, and this may not be discovered till after two or three examinations.

3. This variety resembles the second in its sthenic nature and the suddenness of its onset. The history, too, may tell of a previous attack of catarrhal laryngitis, but this is unusual, although other members of the family may have so suffered. Whatever the previous history, the dyspnœa having once arisen is *permanent and increasing*, though, unfortunately for diagnosis, varyingly so; on the other hand, its onset is more marked and its increase far more rapid than is the case in diphtheria. The conscious struggle for breath and life is here as painfully evident as in the catarrhal form, and the outward aspect of the sufferer much the same. No membrane, or but one or two small scraps, can be seen on the fauces, and these are acutely inflamed and swollen as in the second variety, while swallowing is even still more painful. Pulse, urine, tongue and bowels are in a similar condition.

Finally, a few words as to treatment. In this regard I shall refer solely to the three varieties just mentioned. Decision in these cases is of the utmost value. Our aim is to snatch life from immediate extinction; that aim accomplished, we have many resources by which to drag the child through the wreckage our somewhat heroic treatment has produced. Indeed, not much dragging will be needed; children speedily recoup themselves for injuries received if the action of these be only of short duration.

Speaking generally, my routine method of proceeding is as follows: At once, on the child's admission, I give an eighth of a grain of tartar emetic as a powder every ten minutes till free emesis occur; if after five doses there be no emesis, I double the doses at the same time that I double the interval between their administration; if after three quarter-grain doses thus given no emesis occur, I again double both dose and interval; but only twice in some thirty cases have I had to have recourse to doses of half a grain, and never have I had to give more than two of these. From the commencement, along with the tartar emetic I give a grain of calomel every four hours. Should the case be a very acute one, and not unless, I place the child in a steam tent, and if necessary keep hot sponges applied externally over the larynx. If these fail, I ask the surgeon to perform tracheotomy. A castor-oil enema should be given immediately on the patient's admission.

These are the measures I adopt for a fairly healthy child of two to four years; they are those which were practiced with such success by the preceding generation. In tartar emetic I have the greatest faith; it is a most certain antiphlogistic and one of very rapid action; I have never known it fail to produce emesis, a quality which greatly adds to its value in acute laryngitis, though in its emetic powers by no means reside its chief virtue, for great amelioration of symptoms often occur before this is produced. Like most drugs of rapid action, its power is very transitory, and therefore calomel, whose changes are brought about slowlier, but are more persistent, should be united with it, and its administration continued for at least sixty hours, or at any rate till all attempts at pyrexia have ceased.

In this relation I value the drug ipecacuanha at a very low price. As an antiphlogistic I have never detected its power, and in acute laryngitis there is no time allowed for it to produce its special effect on the mucous membrane. It has emetic powers, but if emesis be the only end in view, sulphate of zinc has a simpler and more rapid action.

A steam tent and hot sponges constantly applied to the *pomum adami* are remedies of the utmost value; indeed, properly administered, there can be but few cases of non-membranous laryngitis which they will not relieve; but in private practice they are far less get-at-able than drugs, and there is often difficulty in instilling into the nurse's mind the difference between hot and *warm* sponges. They have one great drawback; they merely alleviate the local evil, they do not strike at the general inflammatory condition which is the root of it all as do the antimony and calomel. If once the urgent symptoms are combated by these, I leave my patient devoid of anxiety, for relapses are rare, and, when they come, but subacute. But the steam and sponges do not touch this constitutional state, they merely keep it from manifesting itself locally in the larynx; this, too, they keep in an enervating atmosphere, so that it is more liable to catch cold again when removed from their gentle cosseting. It is always dangerous to take away a steam tent or the sponges at night, these should be removed on successive forenoons; even so, however, it is occasionally as tedious a proceeding as the removal of a tracheotomy tube.

In a sthenic case I never, therefore, omit the antimony, whether there be membrane or not; for I believe these prompt antiphlogistic measures go far to hinder the after-development of membrane in the bronchi and trachea, though I know some surgeons look with eye askance at these humble tributes of the physician, and long to bolster up the little fever-stricken child with iron and alcohol. This is because they believe that

> All diphtheria is asthenia,
> All membrane is diphtheria,
> Therefore all membrane is asthenia,

which is a syllagism in Barbara, the soundest of all syllogistic forms; but their minor premise I deny in toto, for I maintain most earnestly that all membrane is *not* diphtheria.

Abstraction of blood would be useful when the administration of antimony is the less easy peformance of the two, or in those extreme cases where even antimony's action cannot be tarried for; but my experience of it is practically nil, for I have tried it on but one case; there it proved beneficial.

Lastly, as to tracheotomy. I have never seen a case of non-membranous laryngitis which required this treatment, and it is hard for me to believe in its absolute necessity in this form.

Tracheotomy is no operation to be lightly undertaken; in its results, at any rate, it belongs to the major, rather than the minor, performances of surgery. I have done it myself only twice, but have seen it performed a good many times by others; and it is especially true of so exciting a procedure as this, that lookers on see most of the game. My experience has lain, too, in three large hospitals where there is no lack of many-handed assistants, and where the operator has the greatest of all requisites—the skill resulting from repeated performance—in a far higher degree than most practitioners in private can possess. In those cases where there is only one medical man and no nurse, I believe it to be an operation of the greatest danger. If you give no anæsthetic, you have all the risks of a terribly restless child held in the unsteady arms of a loving novice. If you act both as anæsthetist and operator, I need say no more to any one who has given chloroform on these occasions. However, it is not tracheotomy itself, but its results which I so greatly dread. When is the tube to be removed and the hole closed? How long must the child run the increased risks, which such an opening gives, of pulmonary inflammation? When closure takes place granulations may still set up spasm or ruin the voice. In the case of non-membranous and membranous laryngitis due to chill, you may have the whole bronchial tract in a state of acute inflammation and eager to produce a membranous exudation; the hole in the trachea lets in raw air, an irritating tube, and teasing feathers upon this sensitive tract, and may be gives the finishing touch to its membranous determination.

In non-diphtheritic membranous laryngitis, then, I put off tracheotomy as long as possible; I have no fear of unduly depressing my patient; every case of this variety which I have seen die after tracheotomy has died of asphyxia from descent of the membrane along the tubes, not of æsthenia. Here, also, is tracheotomy a most hopeless expedient; I have only known one out of ten cases recover, and she, it is significant to observe, was *in extremis* from long dyspnœa and collapse of lung before the operation was performed. Those that died usually got great relief from the operation, and for a few hours appeared well, played and smiled, but in some twenty-four hours the deadly dyspnœa resulting from blocked bronchi began to show itself, and the child died convulsed and comatose. The interim of healthfulness shows, I think, that the end was not brought about by æsthenia.

In diphtheria it is otherwise. Here is æsthenia enough and to spare. The membrane, too, has far less tendency to descend, hence the result is by no means so hopeless. It is not the progress of the local disease, but the constitutional depression which one has most to dread. Nothing can be more exhausting than the strugglings of dyspnœa. In diphtheria, then, I have tracheotomy done so soon as ever there be any serious laryngeal obstruction.—*The American Practitioner and News.*

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DRUMINE.

By John Reid, M.A., M.D., C.M.Glas., Melbourne, Australia.

Habitat.—In North Australia; in New South Wales; in Tasmania; in Western Australia and in Victoria.

Preparation.—The whole plant, including the rhizome, seeds, etc., is macerated in dilute hydrochloric acid for some days. It is then strained through linen under pressure. (The plant may be boiled in the dilute acid and strained under pressure.) Sodium bicarbonate is added, stirring while adding it, until an alkaline solution is obtained with precipitated drumine. The product is filtered, and the precipitate is washed with water to get rid of coloring matter, leaving drumine on the filter. This may be dissolved in dilute acid, and evaporated to obtain the hydrochlorate or other salt.

Properties.—Alkalies precipitate it, the salicylate is very sparingly soluble in water and gives a crystalline precipitate. It may be crystallized from aqueous, spirituous or chloroform solutions in aciculæ, the larger ones almost rhombic, under a high power of the microscope, and stellate crystals, all microscopic. The powder is either dirty like morphine, or pure white. The solution is compatible with iron and acids, cyanide of potassium and a neutral solution precipitate it, not prussic acid; perchloride of mercury is compatible with it; strong nitric acid does not act on it chemically, but dissolves it, as does $H_2S\ O^4$.

Uses.—In nasal catarrh, injected into the nostrils, it effects an immediate cure. This may, in chronic cases or otherwise, be used in solution with gr. i corrosive sublimate to the pint, and gr. vi ad

℥ i hydrochlorate of drumine. Spasmodic contractures at anus—solution locally; the same in pruritus. Facial dermatitis, with acne and itching: spermaceti ℥ i, drumine gr. x. Sciatica or lumbago: case of two years' duration, unaffected by other remedies, cured by two injections. Sprains:—Cases of sprained abdominal muscles cured speedily by free injections. Periosteal pain following fracture of the lower end of the sternum, with tenderness, of two years' duration, cured by injections. Burns:—Extensive denudation of skin; very free application to raw surfaces; relief of pain; no constitutional symptoms. Neuralgia:—Dropped into the eye, it gave relief. Operations:—Used in probing for splinter (producing feeling of deadness); in probing abscess in the foot, etc. Internally:—Relieved the feeling of thirst on a scorching day, and made the tongue moist. On Tongue:—One side may lose the sense of taste for quinine, the other being unaffected (repeatedly tried); also common sensibility destroyed.

Compared with cocaine, it does not dilate the pupil; it does not stimulate prior to paralyzing sensation; it produces no constitutional symptoms when applied to extensive surfaces.

Notes.—Mr. Stanley, M.R.C.V.S., found that sheep might eat it for sometime without its causing death, and that, when given in poisonous doses, it causes hoven. This supports my views, seeing that the sensory nerves of the gut are paralyzed, secretion as well, and so absorption is in abeyance. One cat I experimented on was paralyzed in the extremities; but the dose was very large, and a spirituous solution was used. The stomach, etc., in a cat that had tasted neither food nor water for nine days was natural and free from inflammation, etc.; the blood was natural; the bowels were empty. I have written quite fully enough to show (1) that the drug is a pure æsthetic; (2) that it is safe; and (3) that it may be used both internally and externally with advantage. For further particulars I would refer to my more extended articles in the *Australasian Medical Gazette* and the *Chemist and Druggist of Australasia.* I have given only experiences.—*British Medical Journal.*

For Corns and Bunions an efficient remedy is equal parts of castor-oil and tinct. iodine. This is to paint on the part two or three times a day.

DEEP TUBING OF THE LARYNX AS A SUBSTITUTE FOR INTUBATION WITH REPORT OF NINE CASES.

At a meeting of the Chicago Medical Society Dr. A. E. Hoadley read a paper with the above title.

In these cases the tube was introduced so that the head of the tube rested within the larynx. Eight of the cases were able to drink consecutive swallows immediately after the operation. While all the cases were fatal, the deep intubation gave the greatest relief. Dr. Hoadley believed the most objectionable feature in the O"Dwyer method is the projection of the head of the tube over the top of larynx, interfering with deglutition and exciting cough. This he proposes to obviate by "deep tubing," which he accomplishes by modifying the tube as follows: shortening the tube to nearly the length of the larynx, making the head of the tube conform more nearly to the interior of the upper part of the larynx. Making the upper surface of the head cup-shaped to facilitate the introduction of the extractor, having that portion of the posterior border of the tube corresponding to the arytenoid cartilages stand on a plane anterior to that of the rest of the tube, so that pressure at this point will be slight, making the obturator three-eights of an inch longer than the tube to facilitate the deep introduction of the tube. The long tubes, owing to the mobility of their lower ends, produce irritation in the trachea, exciting cough and pain.

Dr. F. E. Waxham opened the discussion and said: In this connection I take occasion to present a bronchocele which produced death by pressure on the trachea. The history of this case, briefly, is this: The patient was a girl 14 years old; she had been troubled with a goitre for about a year, which increased rapidly in size and the people observed that it was at times larger than at others, more particularly after the child had taken cold; but still the goitre gave no inconvenience until three days before death, when it is stated the child had taken a slight cold and the tumor became larger. With increase in the size of the tumor and the consequent pressure upon the gland by the sterno thyroid muscles, great dyspnœa resulted. The patient was attended by Dr. J. G. Berry, who recognized the true condition, and on the third day I was called to perform intubation. The child was now in the most desperate condition, indeed, it was moribund, the pulse was feeble, rapid and thready, hypostatic congestion had already occurred in the lungs, and the child was semi-comatose. While in this condition the largest size intubation tube was introduced into the trachea, but it failed to give relief simply because the tube was not of sufficient length. It would not reach through the stricture, and from the pressure of the gland, as rapidly as it was pressed down into position so rapidily would it be pressed up again. The child was so near dead that tracheotomy was thought to be useless. To meet such emergencies as this I have had a much longer tube constructed, one that will pass entirely through such a stricture and consequently give perfect relief. The object in performing intubation in cases of bronchocele would be to give immediate relief, and to give us time in which we might perhaps reduce the tumor by electrolysis or the internal and external use of iodine; or these measures failing, we could then leisurely enucleate the gland. Bronchocele may produce death by pressure laterally, or by suffocation from pressure upon the trachea anteriorly; or a lobe of the gland may develop between the œsophagus and the trachea and produce pressure posteriorly. In this case the pressure was exerted laterally. Coming more particularly to the discussion of the paper presented to-night, I feel that it should not go without a few words of criticism. As I believe that an old adage is that the proof of the pudding is in the eating of it, and as intubation has been performed nine times without a success by this new procedure, I would feel that there is little to recommend it. First, in regard to the position of the tube, the author recommends that the tube be reversed, and instead of placing it with the beveled surface forward and the shoulder projecting backwards, he recommends the tube turned so that the shoulder will project forward and the beveled surface backwards. A case has been reported to me in which there was complete perforation at the base of the epiglottis from the pressure of the beveled surface of a straight tube. The most perfect tubes are now made with the upper surface curved slightly backwards so that no pressure will be exerted upon the anterior wall. If we turn the tube around and place it with the projecting shoulder forwards, how much greater must be the danger from ulceration. Again, the author refers in his illustration to a tube with a shoulder broad posteriorly—a tube that has been discarded sometime since, for it has been found that a tube with an olive-shaped head fits the larynx much better than the old tube. I think the author is mistaken about the head of the tube riding high and resting upon the arytenoid cartilages. It depends altogether upon the judgment used in the selection of the tube. If a tube is used larger than is appropriate to the age of the patient, it will be found that while the tube can be passed into the trachea without difficulty, yet the head will not sink into the larynx, and then it will ride high and swallowing becomes very difficult indeed; but if the tube has an olive-shaped head and is appropriate to the age, then it will sink into the cavity of the larynx, resting upon the vocal cords, and swallowing is attended with but little difficulty. In regard to the length of the tube, it would seem to me that little would be gained by making it shorter; indeed, this was one of the reasons of Burchut's failure thirty years ago. You can readily see if we use a short tube, one simply projecting through the larynx, there would be much greater danger from detachment of false membrane below the tube. In offering these criticisms it is with no unkind intent, or for the purpose of discouraging attempts at improvement. While I have now performed this operation over one hundred times and with a success rarely attained by tracheotomy, yet I do not consider the instruments fully perfected.

Dr. Ferdinand Henrotin said : My position is very strongly in favor of that taken by the author of the paper, and as Dr. Waxham says the eating of the pudding tells us about the making, my experience has been directly the opposite of that of Dr. Hoadley. I have only had a few cases, but if they are of any importance in elucidating this point, I take pleasure in giving them. I believe in having the tube facing in the way mentioned in the paper. My first case was about a year ago, the patient being brought to me from out of town. As it was my first case I took particular pains to follow the regular method as pointed out by those who had introduced it, and so introduced the tube with the upper face looking forward and upward, that is, the upper plane at the entrance. The child threw up the tube within ten minutes. I immediately replaced it, and while he remained in the office he was perfectly free in his breathing and entirely relieved from stenosis. In spite of my endeavors to have him remain, he was taken to his home in the country, the tube remaining in place. About eight o'clock the next morning he coughed up the tube. He was all right for an hour, then began to choke up again, and in another hour died from stenosis. In another case I had immediately after, there was no relief. I introduced the tube four different times; I had it in the larynx and it remained in position, but the child was not relieved. I intubed a third child and it died. These three cases were all with the tube in the way mentioned by Dr. O'Dwyer, and they all died. Following that I had three successful cases, and the tube was introduced the other way, facing in the other direction. In one of the cases I had no particular trouble in taking the tube out, but I had more or less trouble in introducing it, a little more than the other way. These cases all recovered. I had a case that recovered—a child of seventeen months—who retained the tube four days and coughed it up himself. Following that and a little talk I had with Dr. Bartlett on the subject, I again resumed the method of Dr. O'Dwyer, and placed the tube in the other direction, and that child died. Day before yesterday I was called to place a tube, and I introduced it without difficulty. I put the tube in about nine o'clock in the evening, and yesterday, a little less than twenty-four hours after putting in the tube according to the O'Dwyer method, it was coughed up by the patient. I went back last evening with Dr. Cunningham, and said: "Now I am going to put the tube in the other way, and see if the patient coughs it up." I replaced the same tube, facing the other way, and he has had no difficulty, as yet, in retaining it. I have had four cases intubed by the O'Dwyer method, with four deaths; three ceses with the tube turned the other way—all recoveries. I suppose it is a coincidence, to a great extent. The eighth case has not progressed far enough to state whether the child will recover. In regard to the advantages of this method, so far I have never had a tube coughed up that was put in in that way, except one, on the fourth day, but the child recovered. It seems to me the tube holds much better, it sinks into the larynx and in most cases disappers; you cannot feel it with the finger, while, if it is turned the other way, you can feel the edge of it with your finger. So far as the extraction of the tube is concerned, except in two instances I had no particular difficulty. As regards swallowing liquids, so far as my observation goes I think it is speaking a little strongly to say that the patients can swallow; I do not think they can swallow much; I feed them on semi-solids; I cut a raw oyster in pieces and let it slip down; a custard and the white of an egg, that slip down easily, and that, with little pieces of ice to quench the thirst, has usually succeeded with me. The disadvantage that I consider attaches to the short tube is that the expulsive effort at coughing would frequently cause it to be coughed up. The length and weight of the tube must be an element in keeping it in place. It seems to me we are using too small tubes. I am using the second size in a child of four years, and getting along quite well. As far as the difficulty of introducing a long tube is concerned, I simply start the tube, and as it slips into the larynx withdraw the obturator, and just as it comes out of the tube my finger slips into its place and pushes the tube home.

Dr. E. Fletcher Ingals said : I have had no practical experience in putting in the tube *the wrong way*, and I do not know how well it may turn out, but anatomically it is certainly wrong unless the shape of the tube be modified. It may be that, with the head of the tube modified, it would sink into the larynx, as recommended by the author of the paper, but with the tube as constructed by Dr. O'Dwyer, it does not seem to me a safe procedure to insert it wrong side foremost, for fear of pressure upon the epiglottis, causing ulceration. As to the effects of deglutition, if the tube fitted and would set deep in the larynx and remain there, of course the patient could swallow more readily. It seems to be the experience of the last speaker that these patients do not always swallow readily, even when the tube is seated deeply in the larynx, and I am inclined to believe that unless some device can be invented to prevent the entrance of fluid, it is better that the patient should take none. Where I have introduced the tube it has been for other physicians, so that I was usually unable to watch the subsequent treatment, but in those that have recovered I have insisted that they should drink absolutely nothing. In the last case I insisted upon it so strongly that I told the parents if they gave the child a teaspoonful of water they would kill it. The child will want to drink very badly after the first twenty-four hours, but it is not a necessity for a few days. If no fluid is allowed, the patient is not nearly as likely to have bronchitis or pneumonia as when it is permitted to drink. The child may have ice, it may have enemas, and may have soft solids in abundance. As to the length of the tube, I agree with the last speaker, that the long tube is the better. One of Bouchot's mistakes was that he made his tube too short. But the principal reason for his failure was that he attacked tracheotomy; he not only wanted to introduce his tube, but he wanted every one else to stop tracheotomy. I would like to know what success Dr. Waxham has had with the rubber in preventing the entrance of fluids into the air passages.

Dr. John W. Niles said : My observation so far leads me to think that it does not make very much difference which way you introduce the tube as regards the patient's ability to swallow fluids. In neither way can this be done without exciting cough. In the two cases in which Dr. Henrotin introduced the tube for me he introduced it the wrong way, and they swallowed fluids better than I expected they would. The next case I had introduced it myself the wrong way, the same as he did the others. The child had more difficulty in swallowing than the others had ; on the third day he coughed the tube up, and when I reintroduced it, it was in the way recommended by Dr. O'Dwyer, and there was a marked improvement in his ability to take fluids. In fact, he swallowed better than the other two. He succumbed to the disease six days after the tube was first introduced.

Dr. E. E. Waxham said : In regard to the rubber attachment which I have recently devised, I certainly think it a great improvement. Some may not desire to use the artificial epiglottis attached to the rubber collar, in which case it can be removed and the tube will still be a great improvement, inasmuch as, the head being small and surrounded by the rubber, it will fit the larynx more perfectly, there will be less irritation, and ulceration will be impossible. I have recently saved two little patients in which this device was used, and have also employed it in other cases with advantage. I agree with Dr. Ingals that it is best to keep water from the little patients as far as possible. I usually advise ice-cream, a very little at a time, or that a small piece of ice be placed in a cloth and held in the mouth. This relieves the urgent thirst without causing the frequent coughing that arises from the endeavor to swallow water.

Dr. Hoadley, in closing the discussion, said : As I mentioned in the paper, I started out in this matter of intubation really on my judgment as to the position the tube was designed to take in the larynx, for I had not given the subject sufficient attention to remember that the tube was designed to rest high in the larynx, and my experience has been so very pleasant, so far as the non-interference with the function of the throat is concerned, that I have decided in my own mind that deep tubing is preferable to intubation. The cases that I have tubed in that manner were all bad cases, and not in a single one could I give a favorable prognosis. They were all promptly relieved, and that was all I expected to attain from the tubing. I have recommended the short tube; the only advantage that the long tube can possibly have over the short one is its weight, except in rare cases, and then its length is of advantage. In the majority of cases of laryngeal stenosis the obstruction is entirely in the larynx, and when it does extend down into the trachea the probabilities are that the child will die of continued extension, and in such a case the long tube can be introduced. In the nine cases I tubed in this manner I used the long tube, so I cannot say whether the short one would have relieved the stenosis. In one autopsy where there was laryngeal diphtheria there was no diphtheritic exudation in the trachea, so that the extension of the tube to the seventh ring was unnecessary. In reference to the position of the tube resting against the epiglottis, as in the O'Dwyer method, I would state that the epiglottis folds down and bears first upon the shoulder of the tube, then closes its orifice, but it cannot perfectly close the larynx. Dr. O'Dwyer has had ulceration of the epiglottis with perforation. You might think it would be a great deal worse to turn the tube around, that the pressure would be greater upon the epiglottis, but when I turn the tube around it goes half an inch lower, and the projection of the tube that is supposed to touch the epiglottis does not touch anything, and the mucous membrane is not pressed upon at all. Introducing the tube in the O'Dwyer method it will not go into the larynx; you can push it down and still it can be felt above the larynx, so when the epiglottis folds over, it must necessarily come against the tube. By turning the tube around, sinking it well into the larynx, it goes down so far that in a small larynx you cannot touch it with the finger, it goes down as far as the attachment of the apex of the glottis with the thyroid cartilage. The epiglottis folds down over the larynx, the laryngeal tube is still free below it, resting on the vocal cord, so that it can produce no ulceration of the epiglottis. As to the vocal cords, D. O'Dwyer says that ulceration is rare in that situation. That is because the pressure is slight, and not attended by friction, as in the epiglottis. Northrup says you must press the tube well down into the larynx. In doing this it rests against the epiglottic cartilage and its projection presses back against the arytenoid cartilages, pressing them wide apart in the most disagreeable manner. It is like putting the right foot into the wrong boot. It does not fit or rest easy at any point. Turn the tube around and it rests comfortably in the larynx without one point of pressure, the only pressure induced is that of swallowing, which is not sufficient to produce ulceration. I have never had any trouble in introducing the tube except in one little patient, in whom, it seemed to me, the larynx went down to the sternum, and it was with great difficulty that I reached the orifice of the larynx, but when I did finally engage it the tube was introduced readily. To facilitate extraction I have had constructed a cup-shaped depression on the head, instead of the oval convex surface with the hole directly in the summit. With the oval head, unless you strike the aperture itself, you are not likely to find it, as the extractor will invariably glide to the outside of the tube. With the cup-shaped head, partly from the tube being surrounded by the larynx, the extraction is greatly facilitated. My patients have all, with the one exception mentioned, been able to drink fluids; they have been able to drink two or three swallows without coughing. Occasionally there was some irritation; they would drink a large swallow and cough, immediately drink again and then cough, but not one refused to drink. I had one case that did recover. Dr. Waxham performed the operation for me, introducing the tube in the O'Dwyer method. The patient wore the tube nearly two weeks, so long that it took between two and three weeks before the child could again talk, but it did not wear it long enough to get used to swallowing without coughing. It could not swallow fluids at all, and was fed with the greatest difficulty, a part of the time by the stomach tube. The object of the rubber collar, with its valve-like attachment, is, as I understand it, to close the orifice of the tube. Inasmuch as the epiglottis will close the tube by its automatic action of folding down over it, I regard the rubber top as being wholely useless. Not only is it useless, but the valve, standing up in constant apposition with the epiglottis, is a source of additional and continued irritation.—*Cincinnati Lancet-Clinic.*

ANTIFEBRINE IN EPILEPSY.—It is reported that Dujardin-Beaumetz is using antifebrine extensively in the treatment of epilepsy, and that he considers it one of the most powerful moderators of the spinal centres.—*American Practitioner and News.*

A CLINICAL CASE ILLUSTRATIVE OF THE CORRECT METHODS OF USING THE OBSTETRIC FORCEPS.

By Prof. Theophilus Parvin, M.D., of Jefferson Medical College.

Now, with reference to the application of the forceps. The instrument was, of course, carefully washed and made aseptic, and the left blade introduced first. There is only one invariable rule in the application of the forceps, and that is that the left blade goes to the left side of the pelvis. This may be epitomized in this way: left blade held in the left hand, and introduced into the left side of the pelvis; everything left but the doctor. With the head lying transversely, the left blade is introduced in the direction of the left sacro-iliac joint. The blade will cause some anterior rotation, so that it fits to the side of the head, and we have an oblique application of the forceps, that is, oblique with reference to the pelvic cavity. But if rotation of the head from transverse to oblique position had not occurred, there would be irregular seizure of the head, the posterior blade being applied to the left side of the occiput, and the anterior to the right side of the frontal bone, and thus the blades would include an oblique occipito-frontal diameter. In this instance, the blades were apparently well applied; but, as it sometimes happens, the branches would not lock. Failure to lock may result from the blades not being directly parallel—they are not in the same plane. Now, if this difficulty occurs, seize the handles, one in each hand, and endeavor, by gentle, not violent, movements to bring the blades directly opposite to each other. But the obstacle to locking may arise from one blade being introduced a little further than the other. Then it is necessary to partially withdraw one or push the other a little further in. If they still will not lock, they must be removed and reapplied.

Having the forceps satisfactorily applied, see that none of the maternal structures are included. Be sure that you have the child's head, and nothing else, Then make a trial pull, to see that the head follows when moderate traction is made, and that the head is not slipping out of the blades, or rather the latter coming off of the former and beginning to emerge from the vulvar opening empty. Having satisfied ourselves that the instrument is properly applied, regular intermittent traction is to be made. Some French authorities hold that moderate continuous traction is less likely to do harm than strong intermittent traction. The proper plan is to imitate nature, and as nature acts intermittently in labor, a pain and then a pause, before she renews her effort, so in most cases of forceps delivery, intermittent is to be preferred to continuous traction. In this case the pains were regular, although very feeble, and the traction was made at the time of their occurrence.

A word as to the force to be employed: In order to deliver with the forceps, it is, as a rule, not necessary that the physician should be an athlete. In the majority of cases the traction is to be made only with the forearms. By pulling with the arms extended the force may be made greater. A force of somewhat more than eighty pounds can be exerted in this way, and if the feet are *braced* against the bed, this can be increased to about twice as much; but a pull of ten or twelve pounds, if made in the proper direction, is usually all that is required. With the head at the superior strait, the proper direction of the pull is downward and backward nearly in the axis of the superior strait. The pelvic canal is, approximately, a cylinder closed at its lower end, and with an opening on the anterior wall. Traction must be made in the axis of the cylinder until the head is brought to the floor of the pelvis, and then the head is brought out of the opening on the anterior wall. The two lines of traction form nearly a right angle with each other. Traction is begun in a line pointing downward and backward, supposing the woman is lying upon her back, as in this country she usually is during a forceps delivery, and ended in a line pointing upward and forward. Lord Bacon has said that we command nature by obeying her, and this applies to the directions of the pulling force used with the forceps.

When the head began to emerge from the vulvar opening, Dr. Diller asked me if he should remove the forceps. I said, "No;" and I think that I can give satisfactory reasons for the practice of allowing the forceps to remain. If we go back to the teaching of Hodge we find that he condemns the removal. While I believe that he was right in this, I do not accept the reason which he gave. He said there was such protrusion of the scalp through the fenestræ of the instrument, that when the blades were removed there would be danger of tearing the scalp. Hodge also held that the forceps adds nothing to the circumference of the child's head. If, however, we read Lusk, we find that he states that the forceps does add something to the circumference of the presenting part, and he, with Taylor and others, advises the removal of the forceps to prevent tearing the perineum. This teaching is, however, older than the time when Taylor began this practice. It was the teaching of Madame La Chapelle and of some German obstetricians before. I know of no actual observations made to decide whether or not the forceps does add anything to the circumference of the head, though, of course, the plain probability is in favor of Lusk's statement. Dr. Hodge used to dwell upon the compressing power of the forceps, but any compression beyond that necessary to prevent the blades from slipping is unnecessary and injurious; for when the head is seized—as it ought *always* to be, if possible—by the sides, you do not need any diminution of the diameter included between the blades. It is not only not needed, but may hinder the labor, for the more you compress the more you interfere with the molding and the mobility of the head, the normal mechanical phenomena of labor being prevented or hindered by thus destroying such mobility.

The reasons for not removing the forceps when the head is in the position named are these: If the uterine contractions are feeble, possibly the head would not emerge under the influence of the uterine and abdominal action alone, and with the patient under the influence of an anæsthetic, the voluntary efforts may be somewhat lessened. It is not pleasant to have to reapply the forceps after it has once been removed. If, on the other hand, the pains are active, and it is quite evident that nature is able to complete the delivery, it may so happen that while you are busy removing the forceps the head will be driven out by a violent contraction and the perineum be torn. You cannot take care of the perineum and remove the forceps at the same time. Finally, there is no means so admirable as the forceps for directing the head in the axis of the vulvar outlet and of retarding its progress until the vulvar ring is fully dilated. I look upon the forceps not as the enemy, but as the protector of the perineum. Properly managed, it never tears the perineum.—*College and Clinical Record.*

Dr. Williams (*Boston Medical and Surgical Journal*) says he has averted a great many felons by keeping a rag tied loosely around the finger constantly wet with cold water. They must be taken in the earliest stage.

CATALEPSY IN A MOTHER AND CHILD.

Dr. Van Schoot discusses in a Dutch medical journal a case of convulsive seizures of a peculiar kind in a woman in the seventh month of pregnancy. When he first saw her she was motionless, her face being cyanotic, but her temperature, respiration and pulse normal. She was quite unconscious, and the slightly dilated pupils did not react to light. The arms were fixed at right angles, requiring some force to move the forearms. By means of chloroform all the contracted muscles relaxed, and some hours' sleep was obtained. Afterwards she remembered nothing of the fit, but she stated that all movements of the fœtus seemed to have ceased, and no heart sounds could be detected. These attacks were repeated frequently for a fortnight, the urine being quite normal all the time. Large doses of bromide were given without effect, but some amelioration was produced by sulphate of atropine. Latterly the attacks were associated with considerable movements of the abdominal muscles. Some temporary benefit was obtained by subcutaneous injections of pilocarpine. At the conclusion of a fortnight from the first attack labor came on, a female child being born alive, which, however, died in a week's time, after repeated convulsions similar to those affecting the mother. The mother had no attack till the fifth day (the same day that the child's first attack occurred). After this there was only one more attack two days later, complete recovery ultimately taking place. The author, referring to the diagnosis, is disposed to exclude eclampsia, because, although there were clonic contractions of the abdominal muscles, the main spasm—indeed, at first the only kind of spasm—was tonic. The entire absence of albuminuria, too, tends to exclude eclampsia. Again, epilepsy may be excluded, as after the tonic no clonic spasms occurred, and as the limbs remained fixed in a certain position for one or two hours. He therefore considers that the attacks were of a cataleptic nature, both in the mother and child.—*Medical and Surgical Reporter.*

In the antiseptic treatment of summer diarrhœa Dr. L. E. Holt regards naphthalin and the salts of salicylic acid as the most valuable antiseptics for the intestinal tract (reprint from the *New York Medical Journal.*)

MINUTES

—OF THE—

THIRTY-FOURTH ANNUAL SESSION

—OF THE—

Medical Society of North Carolina.

Charlotte, N. C., April 13, 1887.

First Day—Morning Session.

The Thirty-fourth Annual Meeting was held in the Opera House, and was called to order by the Chairman of the Committee of Arrangements, Dr. George W. Graham.

Rev. Mr. J. Y. Fair, of the Second Presbyterian church, opened the session with an appropriate prayer.

Mr. F. Brevard McDowell being introduced by the Chairman of the Committee of Arrangements, delivered the following

ADDRESS OF WELCOME.

Gentlemen of the Medical Society of the State of North Carolina:

Your custom of meeting annually in different portions of the State and of inviting distinguished members of other States to be with you, is a custom founded not only upon pleasure and the amity that should exist between various sections, but upon wisdom and utility besides. By this mode the East and the West, the mountains and the sea, the talent, experience and the active thought of the entire State are brought together. The Convention is not the narrow gauge of a neighborhood, but the broad gauge of a State or continent. Provincialism is abolished, a relaxation of harassing home cares ensues, and the progress that stops not at county or State lines, but whose range, like the eagle's, is as wide and free as the air, holds at least a momentary sway and gives a healthy impetus to science and the profession.

I have been selected by the Charlotte physicians to deliver you an address of welcome. Why I was chosen I know not, for I have been well so long and sick so little, that I have actually been ashamed to look a Charlotte doctor square in the face. But I recognize the fact that the doctors will claim us all, sooner or later. There are three things in this life we cannot escape—death, taxation and the doctors. The doctors are with us at the beginning and at the end of our days. They usher us into existence, and when the jig of life is up, when the hard fight is fought and the sunset flickers on the wall, they stand by our side and ease our pain. The minister offers a silent prayer, and faith and charity, the two handmaidens that minister continually around the mercy-seat, cheer us with hope that we shall cross the death-flood and rest beneath the shadow of the further shore.

An old woman's idea of a great man was one "who was careful of his clothes, who could read the Scriptures without spelling the words, who didn't drink spirits and who could eat a cold dinner on a wash day to save the women folks trouble." Our idea of hospitality, like her's of a great man, is primitive, but it is genuine. We do not stucco a man all over with conventional etiquette, we simply tell the stranger we are glad to see him, and we mean it. Doctors are always welcome, especially when they charge nothing for their visits. Our homes, gentlemen, are open to you—we invite you to share our board and partake of our hospitalities, to drive around our beautiful city and inspect her creditable progress and improvements, view the gold mines around us, admire our peerless women and rejoice with us in the history of a liberty-loving and progressive people and of a great and glorious ancestry.

Should I run wild with the love of our favorite oratorical theme—should I inadvertently speak of the 20th of May, of the Mecklenburg Declaration of Independence, or mention the names of Nathaniel Alexander, Dr. Ephraim Brevard, General Graham and others too often, I will deem it an especial favor if you do not bring out your chestnut bells and ring me down.

There are two things new under the sun—a doctor who will take his own physic and one who will prescribe for himself when sick. They evince the same abject fear that the hangman did in Barnaby Rudge when brought face to face with the gallows upon which he delighted to execute so many others.

Considering the labor and learning of the profession, I think doctors are poorly paid; when a man is taken with the cramps he will cry, as did the distressed King Richard, "A kingdom, my kingdom, for a horse;" when hale and hearty he will say, "If the Lord will keep the doctors humble we will keep them poor." Your members appear over the world as do the waves upon the surface of the sea, they are part and parcel of the waters and cover the entire deep; your influence is as coextensive, your profession is coeval with time and history. To your ranks turns the great longing, yearning eyes of humanity for a deliverer—one who will lift them out of the bodily bondage of ills, contagious disease, and carry them safely through the Red Sea of tribulation and land them into a peaceful and painless inheritance. Your calling is a lofty and noble one. He who is the admiration of centuries healed the maimed, the sick and the blind. Barring the sacred ministry none other can so freely enter the innermost sanctuary, approach the holy of holies and handle the golden candlesticks of the altars; you can lift the veil, touch the fringe and almost kiss the hem of the robes of the great Physician on high. The border-land where sanity ends and insanity begins is yours to traverse. The most sacred of all secrets, the family, is yours. You can look, but not with the eyes of the world; you can enter the room, but must stand at the door like Sterns' sentinel angel, with finger upon the lip as a seal that the outside shall never know what happens within. Go on in your glorious work of liberating mankind and alleviating human suffering, and, like the Vestal Virgin, keep the fires of progress bright and burning, and cease not until science shall have gained her grand, her full and her final triumph.

In reply to Mr. McDowell, Dr. Charles J. O'Hagan, of Greenville, said:

The Medical Society of the State of North Carolina, through me, tenders you their heartfelt thanks for the hospitable and generous welcome which the people of Charlotte, through you, have extended to it. I would wish, sir, it was in my power to respond in fitting terms to the handsome and generous things you have said.

It is not the first time that the Medical Society has been the recipient of the hospitality of Charlotte, and while you are pleased to be somewhat humorous at our expense, still we rejoice that you let us off so much lighter than did our illustrious countryman Zebulon B. Vance. If my recollection is correct, when we came here several years ago, with that inimitable manner which he alone possesses, he placed at our disposal the property, the houses and all other things, if in return we would only spare your lives. If any doubt still exists among the people of Charlotte I hope they may be expelled. We come here with no hostile intention, and we hope and expect to prolong and extend and make wiser and happier the lives of the men, women and children of Charlotte and Mecklenburg county.

Sir, you apologized for alluding to the great men this county is fortunate to possess. No apology is necessary. We feel we stand here upon historic ground, where the Declaration of Independence, which was signed by the great men of this vicinity more than one hundred years ago, was promulgated, which pledged the lives and honor and wealth of the people, and which was so faithfully carried out.

Not alone in the Seven Years' War of the Revolution, crowned by success at last, but at all times and on all occasions, when it became necessary for the people of North Carolina to show their devotion to principle and right, in the forefront stood the sons of Mecklenburg.

I am no stranger to the men of Mecklenburg, though a stranger to many of those present here to-day.

I have seen and shaken the hand of some of my companions in "the late onpleasantness," and hope before we leave I may see more of them. In the meantime the Medical Society of North Carolina tenders you the hand of grateful thanks for your courtesy, and hopes, when we depart from your beautiful city, we will leave no unpleasantness behind us, and will carry away many pleasant memories of your courtesy and hospitality.

Dr. George W. Graham, as Chairman of the Committee of Arrangements, then turned over the gavel to the President, Dr. H. T. Bahnson, of Salem.

Dr. Bahnson, in assuming the duties of his office, thanked the Committee of Arrangements for the eminently satisfactory manner in which it had discharged its duties, declared the session formally organized, and instructed the Secretary to call the roll.

As next in order on the programme the President then read his Annual Message.

On motion of Dr. Young the thanks of the Society were tendered the President and his Message referred to the Publication Committee to be printed unabridged.

A motion by Dr. R. H. Lewis, that a committee of three be appointed to report upon the suggestions for the improvement of the Society, as contained in the President's Message, was carried.

It was voted, on motion of Dr. G. G. Thomas, to appoint a committee of three to take suitable action in regard to the names of deceased members that were omitted at previous meetings.

The President stated that the citizens of Charlotte would be heartily welcomed at all the sessions of the Society.

The following committees were announced :

Credentials.—Drs. Joseph Graham, Geo. W. Long and Charles J. O'Hagan.

Finance.—Drs. J. W. Jones, A. G. Carr and Robert Gibbon.

President's Message.—Drs. R. H. Lewis, John McDonald and C. M. Poole.

Obituary.—George G. Thomas, Robert S. Young and W. B. Pritchard.

Dr. R. H. Lewis introduced Dr. Joseph A. White, delegate from the Medical Association of Virginia, and said it gave him great pleasure to welcome Dr. White as a delegate from Virginia.

Dr. White thanked the Society for their kind words and treatment, but it was no more than he expected from the well-known generous hospitality of the Old North State. He not only came as a representative from Virginia, but also in the official capacity as chairman of a committee to carry out one of the suggestions in the President's Message—to draw nearer together the profession of our Southern States. He was the chairman of a committee appointed to organize an inter-State association between the States of Virginia and the Carolinas. He hoped that the project would meet with the approbation of the members of the Society, and that they would take some action towards carrying out this project by the appointment of a committee for that purpose.

The President welcomed the gentleman from Virginia in his dual capacity, and hoped that he would take part in the proceedings of the Society.

Dr. White announced that the next meeting of the Virginia Medical Association would fall immediately after the meeting of the International Medical Association, and that there would be present at that meeting many men of fame. He invited any and all members of the Society to be present, assuring them a pleasant and profitable visit.

The regular programme for the morning session being exhausted, the Committee on Credentials presented the names of the following physicians as eligible to membership:

H. W. Lewis, Jackson; James F. Beall, Linwood; R. A. Patterson, Aurelian Springs; R. H. Stancill, Margarettsville; S. Westray Battle, Asheville; Joel Hill, Arcadia; Joseph M. Davidson, Mountain Island; Wm. H. Bagwell, Pactolus; Joseph Howell Way, Waynesville; Robert J. Brevard, Charlotte; J. E. Caldwell, Caldwell; James M. Gallagher, Washington; D. O'Donohue, Charlotte; J. M. De Armond, Mint Hill; J. H. Bingham, Garrison, Mecklenburg co.; W. B. Henderson, Mecklenburg co.; H. L. Abernethy, Hickory; A. J. Hoover, Lincolnton; W. D. Pemberton, Stanley co.; Ogden D. King, Wilmington; J. H. M'Duffie, Moore co.; S. S. Daniel, Hertford co.; A. W. Goodwin, Raleigh; R. L. Gibbon, Charlotte.

The following report was submitted by the Board of Censors:

The Board of Censors respectfully report that the Buncombe County Medical Society, through its Board of Censors, have presented Dr. John Henry Williams, of Asheville, upon the charge of unprofessional conduct and false representations.

We have decided upon a precedent established by the action of former Boards of Censors of the Society, that we are not called upon to consider any issues which do not directly affect this Society. And, in accordance with this decision, we have to arraign Dr. John Henry Williams upon the specification made in the report of the Board of Censors of the Buncombe County Medical Society, charging him with making a claim to graduation from the Jefferson Medical College of Philadelphia, and that he did so register himself when he signed the Constitution and By-Laws of this Society at the meeting in Asheville in 1881.

It is in evidence that Dr. Williams' name does not appear on the list of graduates of the Jefferson Medical College, and William L. Leffman, the clerk of that institution, writes that he cannot find the name of Dr. Williams as a graduate of that school, but he says that in the year 1876 Dr. Williams did matriculate. Dr. Williams, in reply, says that he did not intend to register himself as a graduate of the Jefferson Medical College, but simply as having been in attendance upon lectures there—his intention was to give the name of the college at which he had matriculated. He has written to the Secretary of the Society asking him to erase so much of his signature as related to the Jefferson Medical College, upon the ground just set forth. But Dr. Baker replied that he had no right to alter or amend the record, as it was the property of the Society. We therefore ask the decision of the Society upon the matter—whether Dr. Williams has been guilty of such a misdemeanor towards this Society as to require any discipline looking towards suspension or expulsion, or whether his confession that he signed the roster of the Society in ignorance of the record he was making shall stand as an offset to the charge. All the other matters coming before us in this issue between Dr. Williams and the Buncombe County Medical Society, we shall return to them for settlement, as we have decided that they concern the local Society, and not the State organization.

Respectfully,
W. J. Love,
G. G. Thomas,
W. W. Lane.

The President asked that the Society take some action towards the disposition of the report. Dr. Thomas thought the report could not be accepted without some action of the Society. He said that Dr. Williams had explained that his signature on the books was intended only to convey the impression that he was a matriculate, and not a graduate of the Jefferson Medical College.

Dr. John McDonald moved that, as Dr. Williams had made this declaration that what he had done was merely a mistake, that he be allowed to have erased from the registration such part of his signature as was misleading. Carried.

There being no further business before the Society, the meeting was declared adjourned till 3½ o'clock P. M.

First Day—Afternoon Session.

The meeting was called to order at 3½ o'clock.

Dr. Long moved that a committee of five be appointed to consider Dr. White's suggestion of the morning session as to the establishment of an Inter-State Medical Society. Carried.

The Chair announced the presence on the floor of several distinguished gentlemen, and requested Dr. W. J. Jones to escort Profs. W. C. Dabney, J. J. Chisolm and L. McL. Tiffany to the stand and introduce them to the Society. As these gentlemen advanced to the stand they were greeted with applause.

Dr. Jones escorted these gentlemen to the rostrum, and in presenting them to the Society offered very complimentary and pleasing words or introduction, for each of them. He promised the Society that they would contribute to their store of knowledge and give them much profitable food for thought and mental assimilation.

The Chair announced the presence in the hall of Prof. J. S. Dorsey Cullen, of Richmond, and requested Dr. G. G. Thomas to introduce him to the Society. Dr. Thomas performed this duty in a graceful manner, adding that no words of commendation from him could add to the distinguished gentleman's reputation.

Dr. Summerell stated that he had received a letter from Dr. Crump, of South River, stating that on account of sickness he was unable to be present, and asking to have his paper referred to the Committee on Publication.

On motion Dr. Crump's paper, he being the chairman of the Section on Materia Medica and Therapeutics, was so referred.

Dr. Cheatham, representing the committee to award the Pittman Prize, said by an oversight the essays had not reached him, and asked that he be allowed to examine the papers after the adjournment of the Society and publish the Committee's decision in the next issue of the North Carolina Medical Journal.

Upon motion Dr. Cheatham's request was granted.

On a call from the President for reports of chairmen of sections, Dr. E. M. Littlejohn read a report on "Obstetrics and Gynæcology."

Dr. W. J. Jones, in moving the reference of Dr. Littlejohn's paper to the Committee on Publication, spoke in terms of praise of the production, and said that the interest of the Society would be served in the proper direction if these essays were the starting point of a discussion which shall bring out all that is in the possession of the members of the Society on the points raised by the author. He then spoke at some length on the issues made by the germ theory.

The President said it was the intention of the Society to have full discussions on these subjects, and reiterated Dr. Jones' request by asking Prof. Dabney to open the

DISCUSSION.

Prof. Dabney said there was very little he could add to the paper which had been read. One or two practical points might be brought to the attention of the Society—one in respect to what is called puerperal septicæmia. That very many of these cases are due to the germ there can be no manner of doubt, still there were cases in which, as soon as all decomposing matter was removed, there was no further trouble, and the fever immediately disappeared. Now truly this would not occur were the symptoms due to a septic germ. The poisoning in these cases is due, not to the presence of germs, but to the presence of decomposing animal matter commonly known as ptomaines—these leucocytes of decomposition. The symptoms in many cases are the same which can be produced in the lower animals by the introduction of ptomaines under the skin. This Dr. Dabney designated puerperal toxæmia, and said that a removal of the exciting cause, generally filth and a want of care for the person of the lying-in woman, would relieve the patient, but this would not obtain when the woman had become the host of the germs which caused the outbreak of puerperal septicæmia, and which required alike local and systemic treatment. Is there no germicide which will destroy these germs and change the condition of the patient? So far as I know there is none which can be administered of sufficient strength to destroy the germs which will not also destroy the life of the patient. What can be done practically? The first point is to abolish the circumstances which favor the development of the germ—to have a strict regard for cleanliness. This is by far the most important point. In other cases of threatening symptoms followed by fever, it is wise to see that there is do decomposing matter in the vagina or in the uterus. It may be a case of ptomaine poisoning. But suppose it is not that, but a genuine case of septicæmia? A want of cleanliness favors the production of germs. He thought there was nothing like injections to remove this decomposing matter, and favored the use of bichloride of mercury. There are instances of poisoning by injections of corrosive sublimate, but they are few, and he has never known one where the solution was as weak as 12-000. From his experience with injections into the pleural cavities, he thought as efficacious results would be obtained from iodine. He thought it not desirable in country practice to use such extreme antiseptic precautions as were suggested by Dr. Thomas several years ago; but it is necessary to remove every particle of dirt and blood, at least from the external genitals of the woman, for it is there that these germs begin their work.

Prof. Tiffany said it was eminently improper for him to speak on an obstetrical subject. Something had been said about abdominal surgery, but he denied that this belonged to obstetrics, but to surgical gynecology. He thought it necessary to recognize the fact that we do not know everything. We are now in the midst of our study on bacterial pathology and are not yet perfect. There is so much opposed to one view and the other it is not possible to be sure as to any at present. If he were asked the most potent means of avoiding this enemy, he would say "a good nail-brush and soap and water." The first thing is to clean the doctor and then clean the patient. He mentioned the success in the treatment of wounds in the mountain regions far removed from large cities, and the experiments which proved the entire aseptic condition of the air at sea. Be sure that the hands are clean before the operation. The surgeon should operate with sleeves rolled up and his arms washed to the elbows. He should see that the person of his patient is thoroughly cleansed. Absolute cleanliness is of course an antiseptic condition. A germicide does no harm, but first of all comes soap and water. All vessels and instruments to be used should be thoroughly cleansed before an operation. He mentioned the importance of the use of hot water, not only to overcome shock, but to wash out from the cavity any germs which may have found entrance. In regard to the best germicide, he believes that bichloride of mercury holds that position. Ether or oil of turpentine will remove the oil from the skin, which soap and water will not entirely accomplish, and his preference is for turpentine. He thinks that all antisepsis, with our present knowledge, can be obtained from soap and water, the nail-brush and the bichloride solution.

Dr. Chisolm said the part of surgery in which he is engaged would seem entirely unconnected with the subject in hand. But he explained that there was a connection, and that this micrococcus was the connecting link. One of the most common of eye troubles, and which is placed to be a most common cause of blindness, is the entrance of a germ into the eyes of the child from the vagina of the mother. After a few days it creates an ophthalmia, which, if allowed to go on, results in the loss of the eye. It is an established law in some hospitals that every child, immediately after birth, should have distilled into its eyes, whether ophthalmia was suspected or not, a solution which will destroy any bacillus capable of causing a destructive inflammation. The effect of this protective system is most marked. He said that in eye work the surgeon is bound to be cleanly, for the instruments are very delicate and must be kept clean to be in good order. A very weak solution, not strong enough to produce irritation, is capable of destroying the germ.

Dr. Cullen said in regard to puerperal fever you find many cases occurring in persons on whom the antiseptic treatment was rigidly practised, and in others where it was not used at all. For the past fifteen years he has always injected the vaginal cavity, and, in anything like metritis, the uterine cavity, with an antiseptic. He has used vaginal injections for several years, and has had but one case of puerperal fever in two and a half years. He does not touch the vaginal canal with the hand after the child is born, but washes the vulva with the bichloride solution. He thinks that an immense amount of puerperal fever is caused by bacteria carried into the uterine cavity by the hand. Practicing physicians cannot always surround the woman with these precautions against bacteria, but they can best protect her by washing their own hands. He attributed to antisepsis the great reduction in Germany in deaths from puerperal fever. He urged his hearers to see that everything is clean, and he ventured to say there will be very little puerperal fever, whether injections are used or not, if in addition to cleanliness the hands are kept out of the vaginal canal.

On motion Dr. Littlejohn's report as the chairman of Section on Obstetrics and Gynæcolgy was referred to the Publication Committee.

Dr. Graham, for the Committee on Credentials, reported the names of Drs. H. H. Dodson, Milton, N. C., and W. L. Crouse, Crouse, N. C.

On motion the report was received.

Dr. W. J. Jones stated that he had a paper from Dr. J. D. Roberts of Goldsboro, entitled "Insanity in Its Earlier Stages." He said Dr. Roberts' duties had prevented him from being present, and moved that the paper be referred to the Publication Committee.

It was so referred.

An invitation from the Charlotte Pleasure Club for the members of the Society to participate in a German was read by Dr. Hays.

On motion the thanks of the Society were tendered the Club and the invitation accepted.

Adjourned till 9 P. M.

First Day—Evening Session.

Meeting called to order by the President at 9 o'clock.

Pursuant to the order of business Dr. Geo. Gillett Thomas, of Wilmington, read the Annual Essay, entitled "Hepatic Stimulants and Cholagogues."

On motion of Dr. McDonald, Dr. Thomas' elaborate and instructive paper was referred to the Committee on Publication.

The President announced the following committees:

Nominations—Drs. J. J. Summerell, W. J. Jones, W. H. White head, A. G. Carr and J. P. McCombs.

On the Proposition of Dr. White from the Virginia Medical Society—Drs. W. T. Cheatham, R. F. Lewis, Geo. G. Thomas, Simmons B. Jones and H. B. Weaver.

The Secretary read a communication from Dr. John A. Pollock tendering his resignation as a member of the Society.

The Treasurer stated that Dr. Pollock's dues had not been paid up to date, and the Secretary was instructed to inform Dr. Pollock of this delinquency, and that when his dues are paid his resignation will be accepted.

President Bahnson stated that he had received a paper from Dr. Cornelius Kollock, President of the South Carolina Medical Society, containing a very interesting account of a penetrating gun-shot wound of the abdomen, involving one or more folds of the intestine. He said he had put the paper in so safe a place that he overlooked it in leaving home, and asked to have it referred to the Publication

Committee, and also that the thanks of the Society be tendered Dr. Kollock for his contribution. It was so voted.

Dr. Thomas stated that Dr. W. Gill Wylie, of New York, had intended being present at the meeting, and had prepared a paper entitled "A Substitute for the Pessary."

The Secretary had just received a telegram from Dr. Wyley stating his inability to be present, but that the paper would be sent.

Dr. Thomas moved that the paper be referred to the Publication Committee if it did not arrive in time for its reading before the Society adjourned. It was so ordered.

The President read a telegram from Dr. Battey, of Rome, Ga., stating that he would not be able to make his promised visit to the Society.

The meeting adjourned till 10½ o'clock to-morrow morning.

THURSDAY, SECOND DAY—MORNING SESSION.

The meeting was called to order at 10½ o'clock by the President.

Dr. J. W. Jones, for the Finance Committee, made the following report:

The Committee on Finance report that, having carefully examined the Treasurer's books, they find:

Balance on hand, May 18, 1886	$457 17
Amount collected from members	479 00
Total	$936 17
Bills paid per vouchers	502 20
Balance on hand	$433 97

We recommend the assessment of $2.00 per capita, and the same salary to the Secretary and the Treasurer as before, to wit, to the Treasurer, $50; to the Secretary, $100.

J. W. JONES,
ROBERT GIBBON,
A. G. CARR.

On motion the report was accepted, and the committee discharged.

Dr. Joseph Graham offered the following report from the Committee on Credentials, and on motion the report was received:

Drs. James M. Dunlap, Ansonville; R. W. Tate, Greensboro; David

McBryde, Maxton; J. D. Croom, Maxton; E. C. Register, Enochville; W. C. Ramsay, Monroe; Alpheus Fields, Kinston; Alexander Capehart, Roxabel; J. G. Christian, Montgomery county.

Dr. O'Hagan stated that Dr. H. O. Hyatt was desirous of renewing his connection with the Society. He said that several years ago Dr. Hyatt had offered his resignation and it was not acted upon, some of the members thinking that he might see reasons for changing his intention. He did not, however, and when his resignation had been sent in to each of the next two meetings, some member said that he could not resign because his dues were not paid, and moved that his name be dropped from the roll. While such a record may appear on the books and is technically correct, it is, nevertheless, morally unjust. He moved that Dr. Hyatt be reinstated on the payment of his dues.

The motion was seconded by Drs. Satchwell and McDonald, both of these gentlemen speaking in complimentary terms of Dr. Hyatt.

The President asked if this matter was brought up on Dr. Hyatt's request, stating that while he was willing and desirous that Dr. Hyatt should return to the Society, he was unwilling for the Society to voluntarily invite him back.

Dr. O'Hagan explained that it was done at Dr. Hyatt's earnes request.

Dr. Haigh stated his understanding of the matter to be only an expression by the Society of its willingness to receive Dr. Hyatt as a member, not that it should make him a member.

Dr. G. G. Thomas called attention to the fact that the motion was for the *reinstatement* of Dr. Hyatt, and not for his *election* to membership.

Dr. Carr thought Dr. Hyatt could not join the Society without being present and signing the Constitution, and moved to amend the motion to that effect.

The Treasurer explained that the record shows that Dr. Hyatt resigned in 1879 and was reinstated in 1882 on the payment of $5.00.

Dr. Thomas asked if this last amendment, if adopted, is equivalent to a ruling that when a member is dropped for the non-payment of dues that he is to sign the Constitution before he can be again known as a member?

Dr. McDonald thought it was the intention of the motion that the Society only express its willingness to receive Dr. Hyatt back into its membership.

Dr. Long thought Dr. Hyatt occupied the same position as any other physician in good standing who was not a member of the Society, and thought that his name should not be acted on in this way, as the Society is supposed to be always willing to receive a physician in good standing. He thought Dr. Hyatt's name should come through the regular channel of the Committee on Credentials.

Dr. O'Hagan then called for the question on his motion, which was offered in the following language: "Moved that Dr. H. Otis Hyatt be reinstated to membership in this Society on making a personal appearance before it and signing the Constitution and By-Laws."

The motion, as thus put, was carried.

Dr. Payne requested the Committee on Nominations to observe the golden rule of rotation in office, and not nominate him as Treasurer for the ensuing year. He thanked the Society for courtesies shown him.

The next order of business being the discussion on subjects previously announced, Dr. W. P. Beall, appointed as Leader of Debate, announced as the subject for

DISCUSSION

"Are the Dangers of High Temperatures in Acute Diseases Overestimated?"

He said in all medical progress there invariably springs up theories, and these theories are at once seized upon by workers who endeavor to establish or disprove the theory, and out of all this work grows the crystalization of certain theories which are received and accepted, or it falls to the ground and is no more remembered. Among these theories is the danger of high temperature in acute diseases.

Fries in 1853 or 1854 popularized the idea that the application of cold in fever was a valuable therapeutic remedy. He was an enthusiast, and claimed that it was almost a universal panacea, and as time went on he became more and more pronounced in the application. Then came Liebermeister, with quinine, and also recommended Fries' treatment, but if he were restricted to the use of one he would take quinine. Following that idea our patients in acute diseases have been cinchonized as soon as the temperature has gotten beyond 101° or 102°, and the idea seems that the temperature is the one thing to be considered in all diseases, and if that can be kept down other symp-
d be regarded as of minor importance. He thought that a

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healthy reaction was springing up in this matter of reducing temperature at all hazards, and the fact is being admitted on all hands that fever itself is not a disease—it is merely one of many symptoms. He thought that the experience in this country has shown that many cases of typhoid fever and others, in spite of cold baths and quinine, have ended fatally—or should he say, on account of these agents—and that relapses have become more common since this antipyretic treatment has come into vogue. The existence of so many antipyretics shows they are all unsatisfactory. He thought we were losing sight of the fact that the fever is not the disease. Fever is deemed now, he believed, to be a neurosis, and the so-called germs of disease are considered the primary cause of all acute troubles and the fever is only one of these symptoms. The experience of all of us shows that one patient will bear a temperature of from 101° to 104°, and will make a good recovery with or without antipyretic treatment, while in another much more dangerous symptoms manifest themselves with the same temperature range and treatment; yet the former should be considered the more dangerous case. In a recent discussion in the New York Academy of Medicine, Dr. Loomis and numerous other lights of that Society arrived at the conclusion that antipyretic treatment as a means of curing disease is a failure, although they did not state it in such absolute terms. When called to see a case of typhoid fever, for example, if we lose sight of the fact that the high temperature may be due to the excitement of the system brought on by disease germs, and pour into the patient quinine in large doses, we do harm. Quinine in antipyretic doses is a heart paralyser, and we run great danger in giving these large quantities. Antipyrin, according to Dujardin-Beaumetz, destroys the blood corpuscles, and, while the most harmless of antipyretics, checks secretion, cutaneous transposition and is apt to do more harm than good. The comfort of the patient may be enhanced by the use of these remedies, but he objects to their indiscriminate use. We are tending too far towards the extreme in the use of antipyretics. In ordinary acute disease by keeping the emunctories active, especially the kidneys, we can attain a more satisfactory condition for the patient than will ensue by temperature reduced by medicines.

Dr. Bullock mentioned the case of a lady who died in his house from typhoid fever, whose temperature, notwithstanding enormous doses of quinine continued to rise and increased after death, until, fifteen minutes after breath had left the body, it reached 106¾° F.

Dr. O'Hagan thought that the hyperexia in acute diseases was an important point to be combatted. He defined pyrexia as being a temperature ranging to 103° F.; anything above that he would class as hyperexia. This matter has received much attention of late years, and the general line of thought has been to localize the origin of excessive heat in the nervous centers, the pons and medulla oblongata being the nervous center of heat production. In all these diseases we find that death takes place at the heart from paralysis, and that paralysis is produced, to a great extent, by the hyperexia, and we must combat that fatal result. He did not approve of the extreme treatment of the German physician who plunged the soldiers into baths of a temperature of 30 or 40°. He had read Liebermeister on quinine as an antipyretic, but that would not do here. There is vast good to be accomplished by holding the pyrexia within the danger line. You diminish the tendency to death by keeping the fever within this point. When the great London physician sat by the bedside watching the temperature fall without medicine, he found his patient got well. That case of pyrexia did an inestimable service to the profession. He proved that nearly all these diseases run a definite course. The deduction from this was that all physicians ought to do something to sustain life and prevent any symptoms from assuming such dimensions as will cause changes in the body which will be dangerous to life. He has never seen any benefit from heroic doses of quinine, but has seen much harm. He thought there was sometimes a vast amount of good to be derived from water. The brain suffers from the pyrexia, then the extraordinary tension and effort by the heart causes danger of cardiac paralysis and thereby death. One of the most important things is to preserve that organ in its integrity. When the temperature is within 103 he avoids physic as much as possible and keeps it within this limit, letting the disease run its course, for this it will do. We know that antipyretics will not abort the fever, but they will keep it in bounds. He favored the application of water to the outside of the body. In regard to the temperature rising after death, he could not give a correct answer, but knew it to be a fact. He mentioned a case of typhoid fever which kept at a temperature of 108° for several days, and recovered in spite of him.

Dr. Cullen mentioned the case of a patient in which the temperature remained at 107½ for forty-eight hours. There was treatment neither by cold bath nor by quinine. Said that he often had the temperature in surgical operations to reach 105 or 106°. For a long time he forbade the use of quinine in typhoid fever. Mentioned the case of a boy fourteen years old in which the fever held on for three weeks with temperature at 104 or 105. Gave him antipyrin very cautiously in eight-grain doses, warning the mother to notice if he had sweat and rapid pulse. He was soon sent for again, the mother saying he broke out with a profuse sweat shortly after his departure, and she was afraid he would die. Found him in a cold perspiration, pulse almost gone and lips blue. Used hypodermic injections of whiskey to bring him round. He did not think you could abort the fever with cold water, but you can keep it down. What is gained by keeping down the temperature? If you gain a respite of only twenty-four hours, it is valuable. You excite a typhoid fever patient by putting him into the bath. He always sponges his patient. It has a soothing effect on the nervous system, makes the patient passive, puts him to sleep and does as much good as a cold immersion in water at 68° or lower.

Prof. Dabney said he was fully in accord with Dr. O'Hagan. He thought that fever may be due to two chief processes—that is, an excessively high temperature—to defective heat loss or to excessive heat formation. Now, it is rendered certain by the experiments of late years that in the vast majority of cases of hyperexia there is an excessive formation of heat, and that this is due to oxygenation. Why? Because these experimenters weighed carefully the amount of urea discharged, and also estimated the quantity of carbonic acid gas and found there was an increased amount of both. It could be due only to excessive oxygenation. So our treatment should be, in those cases where the skin is bathed with sweat, showing that the heat loss is abundant, to give remedies which will check the formation of heat. First, as to the danger of hyperexia. He has no doubt that a temperature over 103° calls for some treatment. He considered pyrexia to be below 103°, and anything above that hyperexia. In these cases of hyperexia remedies are needed. He has given antipyrin several hundred times—a good many times in his own family, and has seen a single case of collapse. Mentioned the case of a lady who had puerperal toxæmia. Gave the dose recommended by Dulany of thirty grains, and told the nurse if, at the end of one hour the temperature remained at 105, to give another dose of 30 grains. Nurse gave second dose without taking temperature, and on returning he found it at 95, with pulse 40. This case ended favorably. The dangers of collapse are slight. This is the only antipyretic which does not produce cardiac failure. Parenchymatous degeneration of the heart muscle is not due to high temperature, but there is no question that this hyperexia tends to cause heart failure. He has tried quinine, given in large doses, but was not satisfied with the effects. Has tried salicylic acid, but of all antipyrin has been the most satisfactory. The dose of 30 gr. + 30 + 15, as recommended by its great champion, Dulany, is too much. Fifteen or twenty grains, repeated in one hour, will almost invariably reduce the temperature two or three degrees and keep it down for twelve hours. Has never seen it kept down under antipyrin twenty-four hours, but has for twelve hours time and again. His rule has been to give it in 15 or 20 grain doses whenever the temperature gets above 103°. He has not had much experience with cold water. Has tried the cold sponging and likes it exceedingly. He tried wet pack in the case of a young lady found unconscious in bed with a temperature of 109°. On using the catheter he found a small quantity of highly albuminous urine in bladder. She was put in wet pack, but died in two or three hours. When you lessen the calibre of the blood-vessels in the skin you throw more blood on the internal organs, thereby augmenting the danger of hæmorrhage from the bowels, and this he regarded as an argument against external use of cold water. He said he had found antipyrin valuable as a styptic. It lessens very much the danger of hæmorrhage. He does not use antipyrin till the temperature reaches 103°. There is no hyperexia till that point is passed; below that the fever is attendant upon many diseases.

Dr. D. B. Frontis asked if we cannot use some measures for reducing the temperature which will have some therapeutic effect other than that. He did not think it best to treat hyperexia for itself alone. So far as known to him no other therapeutic effect is claimed for antipyrin than the reduction of temperature. But there are two classes of cases where it has other effects. In the hyperexia of malarial fever antipyrin contracts the vessels of the viscera more than the peripheral vessels. He thought for that reason it would give good results in that disease. He spoke of the hyperexia from indigestion. In this we may relieve the intestine, or think so, and go as far as we can in counteracting that trouble, and yet the temperature remains high. One full dose of antipyrin will reduce the temperature, and probably that will be the last of it, since the cause has been removed. It has a valuable effect upon the nerves and nerve centers. He does not think it fair to consider quinine only as an antipyretic. It has, unquestionably, a therapeutic effect as an antiseptic, and it has a controlling power over inflammation whenever and wherever it exists. He has been using antifebrin for the past three months, and draws the conclusion that it does not act so quickly as antipyrin, but is far safer. He has never had any alarming effects in chills. It produces a good deal of perspiration, but it comes on slowly. When the temperature rises again we do not have the initiatory chill.

Dr. Booth called attention to two facts in relation to disease—one, that it is the intrinsic tendency of every animal economy to throw off disease ; another, that the destructive metamorphosis comes on more rapidly in a high temperature than in a low one. In the treatment of typhoid fever if we will keep the temperature down and prevent this destruction and sustain our patient, he will get well. It has been the custom to treat typhoid fever by supporting the patient, preventing excessive diarrhœa, and thereby lessening the risk of perforation of the bowels, etc. Recently we find we can lessen the duration of that disease by giving antipyrin. He believes quinine in typhoid fever does a great deal of harm. The duration of the disease is four, five or six weeks, but the administration of proper doses of antipyrin will shorten this time. He believes he has aborted many cases of pneumonia with antipyrin. The main point he wanted to make was that in cases where we do not know what causes the trouble, if we sustain the patient and keep the temperature down he will get well ordinarily.

Discussion was here postponed to give place to the conjoint session with the North Carolina Board of Health.

Dr. Graham introduced to the Society Dr. McAden, who had come as a delegate from the Druggists' Convention.

Dr. McAden stated that at the last session of the State Pharmaceutical Association the question was raised as to the best plan to prevent druggists from prescribing for patients—that it was trespassing on the domain of the physician. In that discussion a resolution was offered and a committee appointed to present it to this State Convention.

The resolution is as follows:

Resolved, That T. C. Smith, L. R. Wriston and J. H. McAden be appointed as a committee to wait on the Medical Convention at Charlotte, next year, and request that body to discourage the practice on the part of physicians of selling medicines—thus encroaching on the domain of pharmacists and affecting their business injuriously. This Association will endeavor to prevent its members from interfering in any way with the practice of physicians.

In presenting the resolution he said that the committee, who were all residents of Charlotte, had no complaint to make against any physician there; each physician and each druggist stands legitimately upon his own territory.

On motion of Dr. Summerell, the Chair appointed a committee of three, consisting of Drs. R. L. Payne, W. J. Jones and S. D. Booth, to take into consideration this resolution and make a report to this Convention at a future hour.

The Secretary read an invitation from the North State Club for the members of the Society to visit their rooms.

CONJOINT SESSION

with the North Carolina Board of Health was called to order by Dr. J. W. Jones, of Tarboro, President of that body.

As first in the order of business, Dr. Jones read his Annual Address.

Next in order was the election to fill the vacancies caused by the expiration of the terms of Drs. R. H. Lewis and R. L. Payne.

It was voted that these vacancies be filled one at a time, and Dr. O'Hagan put in nomination Dr. R. H. Lewis, of Raleigh, saying that Dr. Lewis had been one of the hardest workers and most useful members of the Board of Health.

Dr. Lewis was unanimously elected by a rising vote.

Dr. Long nominated Dr. R. L. Payne, and the nomination was seconded by Dr. Joseph Graham.

Dr. Payne was unanimously elected to succeed himself, but rose and said that while he felt highly honored by the action of the house, he would ask to be allowed to decline. He had been a member of the Board for eight years, and asked that some one younger and more capable should be put in his place.

Dr. Payne's resignation was accepted with regrets, and Dr. H. T. Bahnson, of Salem, being put in nomination was unanimously elected to the position.

The President announced that there were two or three interesting papers to be read, and at his request Dr. S. S. Satchwell read a paper on "The Drinking Waters of Eastern North Carolina."

Dr. Lewis rose to make an acknowledgment of the services of Mr. Henry E. Fries and Dr. J. H. Stancill, members of the last General Assembly, in looking after the interests of the profession during the last session of the Legislature. He wished the Society to know to whom it was indebted for the safety of the laws affecting its interests.

It being now the hour for the noon recess, on motion of Dr. Graham the Conjoint Session adjourned till 3½ o'clock P. M.

SECOND DAY—AFTERNOON SESSION.

The Conjoint Session was called to order by Dr. Jones, President of the Board of Health.

Following the order of business from the morning session, Prof. W. G. Simmons, of Wake Forest, read a paper on "Illuminating Oils."

Dr. McDonald moved that Prof. Simmons' paper be referred to the Publication Committee, and that a committee be appointed to take steps looking to suppressing the sale of these low-grade oils in the State. Carried.

Dr. Haigh said that at the last meeting of this body, when an uncompleted paper was read on this same subject, he suggested that our people ought to be protected against these low-grade oils by the publication of these facts. This was not done on account of the incompleteness of the paper. It seemed to him that the time had now arrived when some publication of that sort should be made. Our Board of Health must show the people that we are working for their good. Here is the fact of the daily use of absolutely dangerous oils by hundreds of thousands of our citizens. With this knowledge before us, is it not our duty to publish these facts? The names of these oils, of the manufacturers and of the sellers should be published, that the people may know what they are doing. It is the only way in which an attack can be made on these manufacturers in the absence of a law, and we would have to wait now two years nearly before such a law could be created. He moved that, as far as it is possible, these facts be published in the newspapers.

Dr. McDonald thought when these facts are brought before the Legislature in the proper way something will be accomplished.

Prof. Simmons stated that the samples had all been obtained from retail dealers, and he was unwilling to hold the manufacturers or perhaps the wholesale dealers responsible unless there was some way by which the identity of the oil could be traced back. The retail dealers could only trace the oil back one step, viz: to the wholesaler. He thought the proper place to apply pressure was on the sale of the oils.

Dr. Haigh thought if our State chemist could publish to the world the analyses of different fertilizers, with their brands, he saw no reason why these facts, which are of so much more importance, should not be.

Dr. R. L. Payne, of Lexington, read a paper entitled "Some Preventable Causes of Disease Among Females."

On motion of Dr. Graham, Dr. Payne's paper was referred to the Publication Committee.

On motion the Conjoint Session adjourned.

The Medical Society was called to order, President Bahnson in the Chair.

The order of business was the continuation of the discussion which was postponed from the morning session to give place to the Conjoint Session.

On motion of Dr. Haigh, the time of debate was limited to five minutes for each participant.

Dr. Hays stated that Dr. White, of Richmond, would have to leave for home on the morning train, and moved a suspension of the regular order of business to allow Dr. White to read a paper which he had prepared.

Dr. Graham offered the following report from the Committee on Credentials, which was received by vote :

Drs. J. A. Ardrey, Pineville; D. C. Parris, Hillsboro; J. M. Lawing, Lincolnton.

Dr. Hays' motion was carried, and Dr. White read an able paper on "Reflex Eye Troubles."

On motion of Dr. Hays the thanks of the Society were tendered Dr. White for his paper, and the paper referred to the Publication Committee.

Dr. Hays said he had prepared and circulated, to some extent, a paper which had been signed by some twenty-five persons, including our prominent visitors. The paper was a pledge on the part of the subscribers to furnish at least one original communication to the North Carolina Medical Journal within the next twelve months.

Dr. Long offered the following resolutions:

Whereas, The membership of the Society is getting to be so large that, in the present plan of organization, only slight recognition, or none at all, is possible to the great majority of members in the assignment of duties to be performed or offices to be filled; and whereas, it is to the best interest of the Society that some increase in the number of appointments for scientific work during the year should be made, therefore be it

Resolved, That the Society should be so arranged that each member shall be placed in one of the several sections, and the chairmen, as at present appointed, be chairman of these sections.

Resolved, That immediately after the adjournment of each annual meeting each chairman shall select such members as he may see fit to read papers on subjects relating to his section.

Resolved, That each chairman shall notify the Secretary as soon as possible in order that a programme may be prepared and published in advance of the meeting.

Resolved, That a certain time of each annual meeting shall be allotted each section, and all papers pertaining to such section be read at that time.

Resolved, That at the meeting of each section the chairman of the section shall preside with the President.

Resolved, further, That a committee of five be appointed to consider the advisability and practicability of the above changes in the plan of organization, and be instructed to devise suitable regulations for carrying them out, if deemed advisable; said committee to report at the next annual meeting.

Dr. W. J. Jones understood the object of the resolutions to be that a change might be effected in the present unsatisfactory manner of getting reports from the chairmen of sections. He deplored the fact that at this meeting only one report had been read; and if the young members come here a few times and hear only one or two essays read and then referred to the Publication Committee with no discussion—or perhaps read "by title" only, and referred—they will soon lose interest in the meetings and think they had better spend their time in a more profitable way at home in attendance upon their patients.

Dr. Graham rose to a point of order, saying the resolutions involved a change in the Constitution and must lay over till another meeting before being discussed.

Dr. Lewis moved that a committee of three be appointed to consider the resolutions as to making such changes as may seem necessary, and report at the next meeting of the Society.

Dr. Lewis submitted the following report of the Committee on the President's Message:

Mr. President:—Your Committee, after carefully considering the admirable address of our President, express the hope that each member of the Society will, after its publication, give it a thoughtful reading and lend his efforts to carrying out the many wise suggestions made therein. They would especially recommend that the following be immediately adopted by the Society:

1. That the NORTH CAROLINA MEDICAL JOURNAL be declared the official organ of the Society; that its editors be *ex officio* members of the Committee on Publication, and that an edition of 800 copies of the "Transactions" be published within sixty days after the month in which the meeting is held.

2. That the Secretary be instructed, by correspondence with some member in each county, to revise the present list of members, and after revision to record the same in the order in which they joined the Society, with the year of admission placed opposite each name, instead of alphabetically, as now.

3. That licensed or otherwise eligible physicians, desiring to unite themselves with us, but who may be prevented from attending in person, be allowed, upon application in writing, to do so upon the endorsement of two reputable members of the Society, one of whom must be present and sign the Constitution and pay the initiation fee for them.

Respectfully submitted,

R. H. LEWIS,
JOHN MCDONALD,
C. M. POOLE.

Dr. Satchwell moved the adoption of the report as a part of the Constitution of the Society.

Dr. Booth thought that portion concerning the admission of members into the Society involved a change of the Constitution and would have to lay over. At the same time it could be adopted at this meeting by an unanimous vote. He moved that the report be read and acted on by sections, which motion was carried.

The first clause being read was adopted, only one voting "no." This section did not involve a change in the Constitution.

The second clause was adopted unanimously.

The third clause being read, was amended to read as it appears above, and was then unanimously adopted.

Dr. Graham offered the following report from the Committee on Credentials, which was received:

Drs. Buxton B. Williams, Warrenton; J. C. B. Justice, Leicester; Robert W. Winborne, Barnitz; John L. Ray, Burnsville; John W. Neal, Meadows.

Dr. Summerell, from the Nominating Committee, made the following report:

The Committee on Nominations would make the following report:

For President—Dr. T. D. Haigh, Fayetteville.

Vice-Presidents—Drs. W. T. Ennet, Burgaw; J. B. Dunn, Raleigh; Thomas E. Anderson, Statesville.

Secretary—J. M. Baker, Tarboro.

Treasurer—C. M. Poole, Salisbury.

Orator—S. D. Booth, Oxford.

Essayist—W. C. Galloway, Snow Hill.

Committee on Publication—Drs. Thomas F. Wood, George G. Thomas, Wilmington; W. T. Ennett, Burgaw; J. M. Baker, Tarboro.

Board of Censors—Drs. George G. Thomas, W. J. Love and W. W. Lane, Wilmington.

Delegates to the American Medical Association—Drs. Charles J. O'Hagan, Greenville; E. H. Hornaday, Washington; J. H. Tucker, Henderson; Joseph H. Graham, Charlotte; John Whitehead, Salisbury; Eugene Grissom, Raleigh; T. S. Burbank, Wilmington; J. B. Gunter, Mebaneville; D. B. Frontis, Wadesboro; J. W. Faison, Mt. Olive; John K. Ruffin, Wilson; R. H. Lewis, Raleigh.

Delegates to the Virginia Medical Association.—Drs. W. T. Cheatham, Henderson; R. H. Stancell, Margarettesville; L. J. Picöt, Littleton.

Delegates to the South Carolina Medical Society—Drs. D. W. Bullock, Whitakers; Simmons B. Jones, Charlotte; Robert F. Gray, Winston.

Obituary Committee—Drs. S. S. Satchwell, Rocky Point; W. H. Lilly, Concord; A. A. Hill, Lexington.

Delegates to American Public Health Association—Drs. J. W. Jones, Tarboro; W. D. Hilliard, Asheville; G. W. Graham, Charlotte.

On motion the report was received.

It was voted that the Constitution of the Society, as amended, be published in the next number of the "Transactions."

On request from the Secretary it was voted to print 250 extra copies of the Constitution for his use in supplying them to applicants.

By request of Dr. R. L. Payne, Dr. A. G. Carr was appointed to take his place on the committee to confer with the druggists.

Dr. Satchwell, as Chairman of the Obituary Committee, asked the members having any information concerning deceased members to send such information to him at as early a date as possible.

Dr. Graham asked permission to exhibit a specimen of the result of the application of the dry earth treatment to the internal surface of the vagina and the general application of this substance in the treatment of other diseases and injuries. He remembered having heard of this treatment while a student in Philadelphia.

Dr. Summerell mentioned having used an earth, manufactured in Baltimore, in his practice at the poor house in his county. He used it successfully in four cases of sore legs which had resisted all other treatment for years. These cases got well in two or three months. Where the sores were excavated the cavity was gradually filled up, and when the granulations appeared cicatrization went on as in ordinary sores.

On motion of Dr. Haigh the thanks of the Society were tendered Dr. Graham for his interesting clinical report.

Dr. Barringer said he had tried it in several cases with perfect result and rapid healing. He had seen the epidermis taken off the skin by an application lying on twenty-four hours. He has had the idea that it is a vesicant and a dessicant. A vesicant will lift up the tissue and leave a fluid serum beneath, but with both combined this serum is absorbed.

Dr. Graham promised to give his experience with this treatment more fully, to the profession, through the columns of the NORTH CAROLINA MEDICAL JOURNAL.

Dr. W. P. Beall concluded the discussion on hyperexia, postponed from the morning session, by protesting against the interpretation of the subject by Dr. O'Hagan. His idea was that high temperature in acute diseases was held in too high esteem in comparison with other phenomena—that our attention had been devoted to relieving the high temperature, and not to the seat of the disease, and it was this he wished to call attention to.

Dr. Carr asked the opinion of the Society as to our autumnal fevers They were called by some physicians typhoid, while others classed them as typho-malarial. In the absence of the characteristic typhoid temperature—a regular increase of one degree each day for a week, then remaining for a week at about 104°, the third week remittent in character and the fourth intermittent, he calls it typho-malarial, notwithstanding the fact that some persons disclaimed the existence of such a disease. In these fevers the highest temperature reached will be about 103° or 104°, and this was present at his first visit.

Dr. Long thought these fevers should be classed as typhoid.

On motion the discussion was postponed to the morning session.

The President appointed on the committee to take into consideration Dr. Long's resolutions Drs. G. W. Long, J. M. Hays and P. B. Barringer.

On motion the meeting adjourned till 8½ P. M.

SECOND DAY—EVENING SESSION.

The meeting was called to order by the President at 8½ o'clock.

Dr. T. T. Robertson, of Winnsboro, South Carolina, was introduced by the President, and responded very pleasantly.

The Chair then introduced Dr. J. M. Hays, the orator of the evening, who delivered most acceptably the Annual Oration. Many ladies and citizens generally were present on the floor and in the galleries.

On a call from the President for the report of the Committee on Prize Essays, Dr. R. H. Lewis, from that committee, said the committee had received two essays, one signed "Hannibal;" the other "Medicus." The committee had decided to award the prize to the latter.

He read a letter from Dr. Charles Duffy, Chairman of the Committee on the Pittman Prize, saying that this essay had been presented in competition for that prize, but the author becoming known to him, they had decided to send it in competition for the Society's prize. It had not reached the committee four weeks before the meeting, but they had decided not to enforce this clause under the circumstances. Upon opening the sealed envelope accompanying the essay, they found the name of Dr. Francis Duffy, of New Berne. He added that the committee regarded the essay as a most excellent production, and thought the Society would be interested in hearing it read. He said Dr. Duffy had requested him to say that, instead of taking the prize, he would ask to offer it again as a prize for the best essay on "The Treatment of Hæmorrhagic Malarial Fever," to be presented at the next meeting of the Society. He will make known to the Secretary the conditions on which he offers the prize.

On motion of Dr. Lewis, Dr. W. J. Jones was requested to read the Prize Essay.

Dr. Jones was escorted to the rostrum by Dr. A. G. Carr, and performed the duty assigned to him in a most satisfactory manner.

On motion the paper was referred to the Publication Committee.

The President said he held in his hand the sum of $50, to be awarded, in accordance with resolutions passed at the last meeting, to the author of this paper, and requested Dr. McDonald to escort Dr. Duffy to the rostrum.

In presenting the prize, Dr. McDonald said: "Let me, my dear sir, in the name of the North Carolina Medical Society and as the agent of this committee, tender you this sum as a testimony of their high appreciation of the manner in which you have performed this voluntary work, and let me hope that your example will be followed by others of the Society."

Dr. Duffy received the money, expressing his sensibility of the high honor conferred upon him, and immediately handing it back, said he wished to offer the amount as a prize at the next meeting of the Society, as explained by Dr. Lewis.

Dr. Lewis said he had made one omission in what he had said for the committee. They regarded the unsuccessful essay as a most excellent and valuable paper, and requested the Secretary, if he should discover the author, to ask him to give it to the profession through the columns of some medical journal. He moved that the thanks of the Society be tendered Dr. Duffy for the money he had donated, and that it be offered as a prize for an essay on the subject named by him. Carried.

The Secretary read a telegram from Dr. Pittman establishing the "Pittman Prize" for the remainder of his life.

On motion of Dr. Lewis, it was voted to transmit to Dr. Pittman the thanks of the Society for his munificent liberality in continuing this "Prize" during his lifetime.

On motion of Dr. Hays, the Committee on the "Pittman Prize" were empowered to award this prize if, on their examination of the essays, any one was deemed worthy of it.

Adjourned till to-morrow at 10½ o'clock.

THIRD DAY—MORNING SESSION.

The meeting was called to order at 10½ o'clock.

Dr. George G. Thomas presented the report of the Obituary Committee, appointed to take notice of the deaths of members since 1881.

On motion the report was adopted.

Drs. Lewis and Thomas expressed to the Society their appreciation of services rendered by Dr. J. H. Stancell while a member of the last Legislature.

Dr. W. C. Ramsay rose to make to the Society his excuses for being absent from the meetings for several years past, and expressed the hope that he would never be kept away from another.

The Secretary read the following resolution from Dr. J. J. Summerell :

Resolved, That the North Carolina Medical Society have heard with great pleasure that our distinguished and long loved member, Dr. Thomas F. Wood, though still on his bed of suffering, is improving; and, while expressing to him personally our deepest, tenderest sympathy in his trial, we utter the hope that God may yet spare him to take again his accustomed place of usefulness in our annual meetings, and that many years of efficient work and honor may yet be his.

Dr. O'Hagan said there had been no resolution offered to the

Society which would so heartily meet their approval as this. There was no one there, perhaps, to whom Dr. Wood was not known, and where he is known he is honored. It was a matter of most profound interest to him and the Society to know that Dr. Wood was improving. He wished it were in the power of the Society to appoint a committee to wait upon Dr. Wood and express to him the kindly feelings of the Society.

Dr. Summerell's resolution was adopted by a rising vote.

The President said it had been his pleasure to correspond with some of the older members of the Society and many other prominent persons. He read a portion of a letter from Dr. Otis F. Manson, of Richmond, Va., offering to the Society, for its "Transactions," his paper on "Hæmorrhagic Malarial Fever," just completed. On looking over the laws of the Society he found that it had been made an inflexible law not to receive a paper at second-hand. He took the liberty of writing this statement to Dr. Manson, that, while the Society appreciated in the highest degree his kindness in offering the paper, if they accepted it they would be establishing a very embarrassing precedent. He said Dr. Manson had sent some copies of this paper, and also one on "Sulphate of Quinine," for distribution among the members, and these could be obtained from the Secretary. He read letters from Drs. N. J. Pittman, John A. Wyeth, New York; Hunter McGuire, Richmond; W. T. Howard, Baltimore, and Will. George Thomas, Wilmington.

Dr. R. H. Lewis, Raleigh, read a paper entitled "Some Practical Reflections on Foreign Bodies in the Ear."

Dr. Thomas moved, with pleasure and gratitude to the author, that the paper be referred to the Publication Committee. It was so referred.

Dr. Booth, in commenting on Dr. Lewis' paper, suggested as a good substitute for a hook a common surgeon's needle, the point of which, when drawn across a hard surface, is turned up. He has found this very convenient for rolling the foreign body (in the great majority of cases a seed of some kind) from the ear.

Dr. Poole read a report of a case of "Quinine Amblyopia."

Dr. Lewis mentioned a case somewhat similar to that of Dr. Poole's, but in his case the trouble was caused by malaria, and not quinine. It was the case of a young man who, in an attack of malaria, not very severe, became absolutely blind, so that he could not see the sun. In six days the blindness passed off entirely. A peculiarity of this case was that the attacks, of which he had had several, always came on a Thursday at 2 o'clock. There was no fever and no symptoms of malarial poisoning except this. The remedy used in this case was salicylate of soda in large doses.

Dr. Poole's paper was referred to the Publication Committee.

Dr. Balsley recited the case of a young lady in whom irregular menstruation was accompanied by suppression of the urine and unconsciousness and apparent blindness. The duration of these symptoms was from Monday until Saturday, during which time but little fluid was taken. The catheter was introduced several times, but no urine of any amount was found. There was slight delirium. She recovered on Monday, the eyesight returned rapidly, and in the course of two or three days was fully established. A week afterwards there was an abscess on the neck. During the early part of the attack he gave aloes and calomel, but after a day or two all medicine was withheld and efforts to sustain the patient constituted the treatment.

Dr. Patterson mentioned having had four cases of difficulty in respiration after labor. One of these died, the others recovered.

Dr. Booth attributed it to pulmonary embolism. A similar case in his practice developed into pneumonia, and the patient died with these symptoms very little improved.

Dr. Baker read a paper from Dr. W. J. H. Bellamy on the use of "Antipyrin in Croup," which was referred to the Publication Committee.

The President stated that the paper sent by Dr. Kollock had come to hand, and on request of the Society read it. The title of the paper was "Abdominal Section for Traumatism; Intestines Sutured, with Recovery."

Prof. Tiffany said the paper just read is almost beyond criticism. The result of the operation, he suspected, was largely due to the bravery on the part of the surgeon in performing the operation so soon and not waiting till traumatic peritonitis was present, as a result of a discharge from the wound and a bloody action from the bowels into the peritoneal cavity. He is worthy of all credit. It is extremely rare for the surgeon to have a bloody action from the bowels or a discharge of feces from the wound so soon, and these were valuable indications for the operation. He had never done an abdominal section for gun-shot wound of the intestine, but has treated in the last few years two or three cases of the belly which have recovered. He had seen the bowel protrude from the wound, but did not think that a reason for doing abdominal section. When an effusion makes its appearance in the neighborhood it is an indication of peritoneal inflammation. He believes in a case of doubt it is right to open the belly. That is the teaching of to-day, and he thought it an improvement on the past. When the surgeon thinks the bowels may be wounded even without the signs the writer of the paper had, abdominal section will do no harm. He mentioned having done four abdominal sections. The first was for intestinal obstruction. The patient died, practically on the table. In the other three there was a different result. The first of these was exploratory. There was a tumor in the left side of the belly, and he did not know whether it was the spleen or kidney. He made an incision in the middle line, made the diagnosis and no harm was done. It was a tumor of the spleen. The next case was for peritonitis following perforation of bowel. That is somewhat in the line of gun-shot wounds of the belly. He made an incision into the right iliac fossa expecting to find an abscess. He did find one containing feces and much blood, and perhaps a half gallon of hot water was used to wash out the cavity. The belly did not go down as expected. The right side collapsed and general shape of belly was not what it should have been. The opinion seemed justified that the patient had suppurative peritonitis, and that adhesion had taken place between the general abdominal cavity and the right iliac fossa. He did laparotomy in the middle line from the umbilicus downwards, and he found the intestines floating in pus and serum. He emptied it as much as possible, and ran hot water through in large quantities. The child collapsed. He thought putting in hot water the best way of stimulating the patient in collapses after laparotomies, because he believed the collapses so commonly seen are due to chilling of the intestine. He called attention to the fact that the extent of surface of the peritoneum is about the same as that of the skin, and therefore capable of drawing off heat very rapidly when exposed to the air. The wounds were washed out with hot water several times daily. Feces came through both openings, showing that there had been escape of feces into the belly and that adhesions had formed. The child recovered. The third case was an abscess of the liver with a healthy peritoneum, and there was no trouble. He tapped through the chest just under the seventh rib in about the axillary line, evacuated the abscess and waited again for the cavity to fill up. He then did an abdominal section, placed a rubber tube in the abscess and fastened it in place, and the patient is now going about with the tube in his liver. Most cases of peritonitis do not generally become suppurative. The patient generally dies before that time. He advised the use of a plenty of hot water for cleansing the cavity, and that no food be given for several days. He did not think a better rule in surgery could be laid down than that in the paper read. If the operation is to be done at all, it should be done early. Use clean hot water. He does not think it necessary to have a large number of instruments to accomplish the result. The pocket-case contains all that is necessary in this operation. One thing of importance is the suture. It is extremely difficult to stitch up a wounded bowel. It is the most slippery of slippery things, and it should be held with the fingers, and not with an instrument. It is one matter with which the general practitioner should make himself familiar, and he advised that they should provide themselves with a few feet of the bowels of some animal and practice the stitch. The stitch should go through the serous and muscular layers, but not through the mucous, that, beside bringing serous surfaces into apposition, it may not come in contact with the intestinal contents. In practicing it himself in this way he found that it was a difficult thing to learn, and needed practice. He thinks this the only especial preparation necessary for the physician to have before attempting to suture a wounded intestine.

Dr. George G. Thomas, from the committee appointed to take into consideration Dr. White's resolution as to the establishment of an inter-State association, made the following report:

The committee appointed to consider the proposition made to this Society to enter into the organization of an Inter-State Medical Society, to embrace this and several other States, beg leave to report that they do not regard the proposed movement with favor, and respectfully recommend that this Society shall not enter into, or participate in, the formation of such a society as is contemplated in the motion submitted by Dr. White, of Richmond.

On motion the report was adopted.

Dr. Haigh rose to renew the invitation extended to the Society at the meeting in New Berne, that the next meeting should be held in Fayetteville. On that occasion he withdrew his invitation in favor of Charlotte, on the understanding that the meeting of 1888 would be held in Fayetteville.

Dr. Haigh's invitation was accepted.

Dr. Lewis moved that the time of meeting be the same as this year—the second Wednesday in April.

Dr. O'Hagan offered an amendment substituting Tuesday for Wednesday, and inserting the words "at 10 o'clock A. M."

The motion, as thus amended, was carried.

Dr. George G. Thomas asked for himself and his colleagues on the Board of Censors to be relieved from that duty. For himself, he would have to decline, and both the other gentlemen had asked to be relieved.

Dr. Lewis moved the resignation of these gentlemen be accepted.

Dr. Booth offered an amendment empowering the President to appoint another Board of Censors.

The motion, as thus amended, was carried.

On motion the thanks of the Society were voted Dr. Otis F. Manson for his munificent gift of pamphlets.

The hour for the installation of officers having arrived, the President requested Drs. Thomas and Booth to conduct President elect Haigh to the Chair.

Before tendering the gavel to his successor, Dr. Bahnson said to the Society: "For the honor you have conferred on me I have already expressed, and wish to repeat, my hearty thanks. It is a pleasure to have wielded the gavel in an assembly such as this; and for your kind granting of my last request, that you bear with me; for the courtesy you have shown my inexperience; for the attention to my requests as President of the Society, I feel I owe you my individual thanks. It is with scarcely a diminution of the pleasure I have experienced that I now introduce to you your President, Dr. T. D. Haigh."

Dr. Haigh said: "Fellow members, for the double honor you have conferred upon me in selecting me as your President for the ensuing year, and by honoring me before my own people in appointing my place of residence as the point where you will assemble next year, I heartily thank you. I will not attempt—I fear to attempt to express the feelings that stir me at this moment. But let me say that if my actions shall in any measure keep pace with the love I have for you all and for this Society, I shall not fail to come up, in some measure, to the point that your leader should take in the ensuing year. Again I thank you, and will be glad to see you all when me meet again, next year, in Fayetteville."

On motion of Dr. Payne, it was voted to pay the stenographer $25 for his services.

A vote of thanks was tendered the citizens generally, and especially the profession of Charlotte, for kindnesses to the Society during the session.

Adjourned till 3½ o'clock P. M.

THIRD DAY—AFTERNOON SESSION.

The meeting was called to order at 3½ o'clock.

The President announced the following chairmen of sections for the ensuing year ;

Practice of Medicine—Dr. Simmons B. Jones, Charlotte.
Obstetrics and Gynæcology—Dr. S. T. Nicholson, Washington.
Microscopy and Pathology—Dr. H. W. Lewis, Jackson.
Surgery—Dr. P. B. Barringer, Davidson College.
Medical Jurisprudence—Dr. R. F. Gray, Winston.
Materia Medica and Therapeutics—Dr. J. H. Way, Waynesville.

Dr. Graham, from the Committee on Credentials, reported the name of Dr. W. P. Craven, Mecklenburg county.

The name of Dr. J. C. Gidney was presented for reinstatement, being reported as having been dropped for the non-payment of dues.

Dr. Payne thought that members who had been receiving the "Transactions" regularly should pay all back dues.

Dr. Bahnson said that during the time he had served as Treasurer there was a direct ruling on this subject and the Society ordered that any old member could be admitted on the payment of three years' dues. He called attention to the necessity of codifying all such rulings of the Society, and moved that the Secretary be empowered to employ some competent person to codify and properly index all rulings and orders of the Society and have the same printed.

The motion was carried.

Dr. Young moved to reconsider the motion fixing the time of the next meeting on the second Tuesday in April. His reasons for this were that there are one or more medical colleges which do not graduate their classes until May, and the present arrangement would require these graduates to wait a year before they could get their licenses.

The motion was carried.

Dr. Young then moved that the Society meet next year on the second Tuesday in May. Carried.

Dr. Graham mentioned a case of pulmonary phthisis treated by inhalations of turpentine, resulting in lessening the amount of sputa and improving the general condition. He was more than pleased with the treatment. The cough had decreased more than one-half. The patient carries the apparatus in his pocket and uses it several times a day, consuming about half an ounce of turpentine daily. It does not affect the kidneys or irritate the mucous lining of the larynx.

Dr. Payne mentioned a case in which an eruption followed the administration of chloral hydrate, and subsided on the discontinuance of the treatment.

Dr. Graham had noticed that the long-continued use of chloral would cause an eruption around the nails.

Dr. Bahnson presented the following resolutions:

Resolved, That this Society recognize, with unfeigned pleasure, the assistance rendered by the press of the State to the Medical Society of North Carolina in its efforts to elevate the standard of medical education, and we are proud to acknowledge our obligations to these enlightened educators of the public.

Resolved, That the thanks of the Society are hereby tendered to the papers of Charlotte for their efforts to make this meeting a success.

On motion the thanks of the Society were voted to the railroad and various corporations, the physicians and Academy of Medicine, and all those who, in public or private capacity, helped to make this meeting so pleasant. Also to Mr. Atkinson for the delightful entertainment at the Charlotte Female Institute to which the Society was invited.

Dr. Bahnson was allowed to amend his motion as to the printing of all rulings of the Society by adding the words "and published with the 'Transactions' of the Society."

On motion the Secretary was empowered to have bound all back numbers of the "Transactions."

The President appointed on the Committee on "Pittman Prize" Drs. P. E. Hines, Hubert Haywood and R. H. Lewis, Raleigh.

He appointed on Committee on "Duffy Prize" Drs. J. J. Summerell and Whitehead, of Salisbury, and Beall, of Greensboro.

Dr. Summerell asked to decline, but on special request of the President consented to serve.

On motion the meeting adjourned to meet in Fayetteville on the second Tuesday in May, 1888.

AWARD OF THE "PITTMAN PRIZE."—The Committee to award the "Pittman Prize" of one hundred dollars have given their preference to the essay of Dr. Julian M. Baker on "Hemorrhagic Malarial Fever." The JOURNAL wishes to offer its congratulations to Dr. Baker for this vote of esteem on the part of the Committee.

ANNUAL MEETING OF THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

CHARLOTTE, N. C., April 11, 1887.

The Board of Medical Examiners of North Carolina convened in the Central Hotel at 9 o'clock A. M. April 11th, 1887.

The following members were present: Dr. Wm. R. Wood, President and Examiner on Chemistry and Pharmacy; Dr. W. J. H. Bellamy, Secretary and Examiner on Materia Medica and Therapeutics; Dr. A. W. Knox, Examiner on Obstetrics and Diseases of Women and Children; Dr. P. L. Murphy, Examiner on Anatomy; Dr. James A. Reagan, Examiner on Physiology and Medical Hygiene; Dr. Frank Duffy, Examiner on Surgery, Surgical Pathology and Diseases of the Eye and Ear; Dr. Willis Alston, Examiner on the Practice of Medicine.

After the reading and approval of the minutes of the last meeting and transacting other important business, the names of forty-eight (48) applicants for license were recorded. As a result of the examinations, which were continued from the 11th to the 15th inst., the following thirty-four (34) gentlemen received their licenses to practice medicine in North Carolina:

Dr. William B. Henderson, Hopewell, Mecklenburg county.
" William S. Davidson, " " "
" Henry L. Abernethy, Hickory.
" Andrew J. Hoover, Lincolnton.
" William D. Pemberton, Albemarle, Stanley county.
" Ogden D. King, Wilmington.
" Frank J. Garrett, Rockingham.
" James H. McDuffie, Keyser, Moore county.
" Starkie S. Daniel, Winton, Hertford "
" Andrew W. Goodwin, Raleigh.
" Robert L. Gibbon, Charlotte.
" Alanson Capehart, Roxabel, Bertie county.
" John M. Belk, Munroe.
" Alpheus Fields, Kinston.
" Buxton Boddie Williams, Warrenton.
" Whipple W. Clark, Hominy Creek.
" J. C. B. Justice, Leicester, Buncombe county.
" Robert W. Winborne, Barnitz, Chowan "
" John L. Ray, Burnsville, Yancey "
" John W. Neal, Meadows, Stokes "
" Charles B. McAnally, Madison, Rockingham county.
" James A. Austin, Long's Store, Union "
" Hiram C. Jones, Wilbar, Wilkes "
" Frank M. Winchester, Munroe.
" Amos F. Jones, Wilkesboro.
" Edward F. Strickland, Bethania, Forsyth county.
" David A. Stanton, Level Cross, Randolph "
" John E. Ashcraft, Munroe.
" J. P. Fearington, Bellevoir, Chatham county.
" James S. Doak, Ruffin, Rockingham "
" James C. Grady, Seven Springs, Wayne "
" J. Wellington Byers, Charlotte.
" Richard D. Hodge, Raleigh.
" Henry B. Shields, Carthage, Moore county.

A (duplicate) license was issued to Dr. M. F. Fox, of Guilford county, a licentiate of the Board at Durham in May, 1885, it having been represented that the original license was lost.

The business of the Board being completed, it adjourned *sine die.*

W. J. H. Bellamy, M.D., Secretary.

OBITUARY.

JAMES A. MACRAE, M.D.

At a regular meeting of the Cumberland County Medical Association, held at the office of the President this day, the following resolutions were offered and unanimously adopted :

With sincere regret for the demise of our esteemed brother and co-laborer, Dr. James A. MacRae, we would evince, as a Society, our profound appreciation of the worth, high professional standing and devoted patriotism of one so long associated with us; therefore be it

Resolved, That, in the death of Dr. MacRae, this Society has lost one of its brightest luminaries and most useful members, the community a valuable citizen and the country a true and tried patriot.

Resolved, That, as our lamented friend showed, throughout his life, his devotion to his country by voluntary service in two wars, his memory has a halo of glory which endears him the more to our remembrance.

Resolved, That, in his long affliction, his fortitude and resignation furnish us with an example worthy of our highest esteem.

Resolved, That, in all the relations of life, our deceased brother bore himself with that dignity which proved him to be a gentleman in the fullest sense, and one in whom were beautifully blended the qualities of the strictest integrity with the highest professional skill, and we now point with pride to him, this last star which has disappeared from our professional galaxy.

Resolved, That a copy of these proceedings be spread upon the minutes of this Association, and a copy be furnished to the bereaved widow of our departed friend, and also a copy furnished to the NORTH CAROLINA MEDICAL JOURNAL with a request that it be published.

JAMES A. HODGES, Secretary.

Fayetteville, N. C., March 16, 1887.

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ORIGINAL COMMUNICATIONS.

CHRONIC NASAL CATARRH AND ITS RELATION TO PHTHISIS, ASTHMA AND ALLIED AFFECTIONS.

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The history of most, if not all, cases of phthisis and asthma date their earliest symptoms from a cold, and careful inquiry generally elicits the fact that there had been a frequent succession of colds or a great tendency to take cold on the slightest exposure. These attacks are not infrequently followed by laryngeal inflammation becoming more or less chronic, with cough, expectoration, etc.

A rhinoscopic examination of such cases generally reveals hypertrophied tissue over the turbinated bones, with frequent congenital or traumatic deviation of septum, exostoses, polypi or adenomata of the vault of the pharynx. When much inflammation has been present there is often complete occlusion of one or both nostrils from pressure of opposing surfaces. This inflammation extends imperceptibly to the larynx, the first and only indication of which to the unhappy sufferer being hoarseness, cough or pain, and here I would like to invite your attention to a fact which is almost universally admitted by authorities, as I will endeavor to show further on, that the inflammation invariably begins in the nose. First, successive attacks of influenza and afterwards a chronic inflammatory thickening of the nasal mucous-membrane ensues, and especially that over the turbinated prominence, or where a deviated septum exists, or a jutting out spur or promontory of cartilage, the inflammation is set up to be extended and prolonged, frequently at the expense of the patient's life, either from phthisical laryngitis or implication of the lung itself. Only recently have we been shown how many and varied are the ill-effects resulting from chronic nasal enlargements. The presence of polypi and its resulting catarrh, hypertrophies, exostoses, etc., are the frequent cause of acute attacks of spasmodic asthma, hay fever, acute and chronic laryngitis, epiphora, trachoma, etc., as proved by the fact that their radical cure is brought about only by the removal of these growths.

Dr. Boerne Bettman, of Chicago, in a very recent discussion before the Medical Society of that city, on "The Connection Between Ocular and Nasal Diseases," gives it as his opinion that "numerous pathological conditions of the eyes, and lids even, are attributable to abnormal changes in the nose, giving as an example a radical cure of a case of epiphora, by a deep incision with the electrode knife into an extensive swelling over the anterior portion of the inferior turbinated bone. Nasal polypi he also thought to produce the same effects. He stated that he had treated the majority of cases of these growths coming under his care with the galvano cautery.

The applications which were restricted to the anterior ends of the turbinated bones frequently failed to give relief, as it has been found that a sensitive area exists at the posterior end of the inferior turbinated bone and also at the anterior part of the nasal cavity in the angle forming the boundary of the vestibule.

Dr. Henry Grady agreed with Dr. Bettman, and mentioned cases of tracoma and pseudo-erysipelas of the lids, which had been caused by nasal catarrh, and also that true periodical and non-periodical hay fever, true catarrh of the upper and front part of the nose, polypi and other affections produced disturbances in the eye. I also find in a late number of the *Medical News*, of Philadelphia, the following account of a case of tuberculosis of the fauces:

"Mr. L. Browne showed at a recent meeting of the Medical Society of London, a young woman, aged twenty, married, and the mother of three children, who was the subject of tuberculosis of the fauces and pharynx, extending to the posterior wall of the larynx and slightly involving the right arytenoid cartilage. The lung condition showed only incipient phthisis, but bacilli of tubercle were plentiful at the seat of ulceration in the fauces. The patient had suffered, on admission into the hospital, on December 4th, from dysphagia in such an extreme degree that she preferred not to take food. According to the method advised by Krause, of Berlin, the diseased surface, previously anæsthetized by cocaine, was scraped, and solutions of lactic acid, 20, 40 and 60 per cent., were applied daily for twenty-one days. At the end of that period acute inflammation took place, on recovery from which the dysphagia was found to be absolutely relieved. In reply to Dr. Angel Money, he said that the case was regarded as tubercular by all who had seen it, and the typical bacilli were discovered."

Without active treatment to check the progress of an acute attack of laryngitis, a chronic condition of the parts may be developed, and we will have an incessant cough, more or less profuse expectoration, a continuous tickling in the back of the throat—the uvula becomes elongated and pointed or whipsnapper-like—the soft palate relaxed and let down, and the voice assumes a deadened, toneless character, or, in other words, the patient is said to have chronic laryngitis.

Dr. Charles E. Sajous, of Philadelphia, in his recent work (1886) on "Diseases of the Throat and Nose," in speaking of chronic laryngitis, says: "As pointed out under the heading of hypertrophic rhinitis, it is a frequent complication of that affection—the chronic catarrhal inflammation extending by continuity of tissue to the larynx, which is itself made subject to all the exacerbations which the nasal disease undergoes. A more frequent connection between the two diseases, however, is the irritation kept up by the posterior nasal discharges which either drop into the larynx or trickle along the posterior pharyngeal wall until the inter-arytenoid commissure is reached. Here they accumulate to a degree and maintain the posterior portion of the larynx in a constant state of irritation, which is further aggravated by the coughing and hacking induced.

This cause of chronic laryngitis is insisted on by Bosworth, and I can well confirm his opinion.

A fact which I have frequently noticed in this connection is that the amount of chronic laryngeal inflammation is in proportion to the degree of purulence of the discharges. Purely mucoid secretions are tolerated by the laryngeal mucous-membrane without harm, but as soon as they become muco-purulent or purulent, local congestion is engendered, followed frequently by erosions. These cause hoarseness, cough and expectoration (the sputa being formed principally by the posterior nasal discharges) and the presence of phthisis is suspected.

When hypertrophic rhinitis is present and sufficiently marked to prevent free respiration through the nose, oral breathing becomes another aggravated feature.

The air reaching the larynx without being warmed, moistened or purified of its extraneous substances, carries a continual burden of irritating material into the larynx.

Dr. W. C. Jarvis, the distinguished author and inventor, of New York, in a late brochure on "Catarrhal Affections of the Nasal Passages as a Cause of Pulmonary Phthisis with Special Reference to Its Heredity," says: "The etiology of pulmonary tuberculosis has naturally received a deeper significance since the discovery of the bacillus tuberculosis. Despite, however, the positive character of Koch's results, there remains, according to his own admission, much yet to be learned concerning the pretubercular conditions which determine the development of the tubercle bacillus. The most favorable conditions are pent-up secretions, removal of the protective epithelia of the bronchi, abrasions, etc., one or more of which will be frequently observed in nasal catarrh and may be also associated with catarrhal phthisis when taken in the true sense of the term, as taught us by Dr. Alfred L. Loomis.

"Conspicuous among the complications traceable to nasal catarrh and bearing upon the question of the causation of pulmonary phthisis is chronic irritative hyperæmia of the larynx, and recognizing this organ, with certain modifications, as the upper portion of the lungs, it clearly constitutes a menace to the integrity of the entire pulmonary tract.

"The disturbances to nasal drainage arising from nasal catarrh prevent the natural disposition of the nasal mucus, and consequently permits it to enter the larynx. Now, nasal mucus in the larynx is a foreign body, and as such invariably gives rise to prolonged irritation and to a familiar train of signs and symptoms. The larynx naturally resents the invasion of its territory, and we have a constant desire to clear the throat."

The accuracy of this observation of Dr. Jarvis becomes more apparent when we realize that the mucus becomes perverted and more acrid from retention by hypertrophied tissue, deviated septa, etc.

The deviated septa, also, which we have several times observed to be a hereditary condition and all its injurious effects, is handed down from father to son. A sharp spur of cartilage or bone, jutting out from the septum, presses against the contiguous surfaces and becomes a continual pressure irritant and inflammatory centre. Thus we have a system of reciprocal inflammation provoking and prolonging a nasal catarrh.

The same writer, speaking of atrophic rhinitis, says: "It is well known that the nasal cavities are abnormally enlarged from long-standing atrophic processes. Large, firm masses of muco-purulent matter cling to the smooth walls of the nares, which become dry and are constantly precipitated into the throat, irritating and inflaming the larynx. The patient is harrassed and enfeebled by constant efforts to clear his throat and larynx from these suffocating crusts. The nasal inflammation extends down to the pharynx and produces pharyngitis sicca, and the dry patches of which, by obstructing the passage of the scanty nasal mucus, causes it to be continually deposited all over the larynx and vocal cords. The patient becomes emaciated, weak and miserable from the frequent efforts to clear his throat from these inspissated irritating discharges; and night-sweats, hectic fever and all the usual signs of advanced phthisis present themselves."

These are only a few of the many authorities that I could cite in substantiation of these facts. I will add brief abstracts only of one or two out of a number of cases that have come under my personal observation.

Case 1.—*Chronic Laryngitis.*—Mr. D., white, aged 23, was referred to me by Dr. Charles W. Kollock.

The patient states that he has suffered with frequent nasal catarrh and incessant trouble with his throat for years. He thinks that he has incipient phthisis from the fact that he remembers his father to have had a similar hoarseness of his voice. Has been under treatment several times for chronic laryngitis, but has never received any permanent relief.

Examination with the laryngoscope showed a chronic irritated condition of his larynx and pharynx. His soft palate was relaxed and let down, and his uvula was elongated and pointed or whipsnapper-like. But in addition to all this, the rhinoscopic mirror showed an exostosis jutting out from either side of the posterior end of the septum—much larger on the left side than on the right, and pressing against the hypertrophied tissue over the posterior portion of the inferior turbinated bone, almost occluding the left nasal cavity. His voice had that peculiar deadness, loss of tone and rasping character common to such cases. I at once amputated his uvula and he experienced immediate relief from the continuous tickling and consequent necessity of frequently clearing his throat, to which for a long time he had been subject. With the burr drill and "surgical engine" I then cut the exostosis off and enlarged the lumen of the left nostril, thereby increasing his breathing capacity to such an extent that he now expresses a doubt if that nostril had ever been permeable before. I hope that, with the complete removal of the obstruction to his nasal breathing by the restoration of the normal calibre of his nostril that the laryngeal inflammation will become lessened, and that there will be an improvement in the tone of his voice and in his general health, especially as he has lately confirmed the original diagnosis by stating that the discharge of pus following the operation, in addition to the abnormal nasal mucus from which he had previously suffered, has greatly irritated and increased the inflammation of his larynx.

Case 2.—*Chronic Laryngitis.*—Mr. J., white, aged 45, was referred to me by Dr. R. B. Rhett, with a history of having had a severe cough and most of the symptoms of incipient phthisis.

The patient states that about six or eight years ago he had repeated attacks of influenza until his breath became fetid. This annoyed him to such an extent that he resorted to a great many remedies for relief, but only gained temporary benefit by the occasional insufflation of some empirical powder—the disorder reappearing whenever the powder was discontinued. His liability to frequent catarrh finally produced a severe laryngitis, with much cough, expectoration, etc.

On examination with the rhinoscopic mirror I found a large hypertrophy on the posterior end of the right inferior turbinated bone, and a general hypertrophied condition of the nasal mucous membrane. He had also posterior pharyngeal catarrh, with the formation of hard, inspissated crusts on the posterior pharyngeal wall and a chronic laryngitis. I cauterized the hypertrophy with the galvano-cautery knife and applied mono-chloro-acetic acid to the other surfaces, as recommended by Dr. L. Morrison Ray, of Louisville, Ky. I also treated his pharyngitis with astringent sprays produced by means of the Sass spray tubes and the reservoir of compressed air. In addition to this Dr. Rhett had already given him a general constitutional treatment for phthisis, and his condition was so much improved that he was enabled to return to his business, viz: that of a driver on one of the street car lines.

Now, the next point to which I would like to ask your attention is the frequency with which asthma is originated and kept up by diseases of the nasal cavities. A fact which is by no means universally admitted by our profession.

Dr. C. E. Sajous says, in this connection, of exostoses and nasal growths, that pain due to pressure is sometimes quite severe and manifests itself along the course of the fifth pair, while reflex asthma, due to pressure on the posterior portion of the inferior turbinated bodies, may be induced, as was the case in one of his patients. In "Pepper's System of Medicine," under the heading of asthma, I find the following: "Vollotini, of Breslau, has described cases of asthma which were evidently due to the presence of naso-pharyngeal polypi, the attacks disappearing with their removal and reappearing with their renewed growth."

These statements have been confirmed by subsequent cases observed by Hœnish. Attention has lately been directed to a number of cases in which the asthmatic paroxysm was found to be associated with catarrh of naso-pharyngeal and laryngo-tracheal mucous-membrane. It is thought in such cases that the irritation caused by the pressure of the swollen mucous-membrane upon the adjacent nerves is conveyed through them to the pneumo-gastric, and thus provokes the bronchial spasm. Daly, Roe, Harrison, Allen, Hack and others have traced the paroxysms of hay asthma to an hypertrophied condition of the mucous-membrane over the turbinated bones and septum of the nose which renders it peculiarly susceptible to the action of the irritants which cause that troublesome affection, and have succeeded in curing many cases by simply removing the diseased tissue.

I find no mention of this origin of asthma in many other authors whom I have consulted, and in conclusion I will briefly relate two cases confirmatory of the above.

Case 1.—*Asthma.*—J. O. H., white, aged 25, came to me suffering from an acute exacerbation of a chronic rhinitis to which he had for many years been subject. He stated that whenever his nasal catarrh became worse that he would invariably be taken with a severe attack of asthma and his appearance indicated that was no exaggeration. The heavy, dull look of his eyes, as well as the congested, swollen condition of his nose and mouth being evident symptoms of his condition. My father had attended him previously for two attacks of asthma of extreme severity.

On examination with the rhinoscopic mirror illuminated with a Tobold's laryngoscope, I found a complete turgescence of the entire mucous-membrane, producing complete occlusion of the nares and a general hyperæmic condition of his larynx and fauces. Upon making a subsequent examination the origin of his trouble was discovered in a chronically hypertrophied condition of the mucus-membrane over the turbinated bones. I regret very much that I have not yet been allowed to institute treatment in this case, the patient's ignorance and timidity preventing.

Case 2.—*Asthma.*—B. M., colored, aged 9, came to be treated for frequent attacks of asthma, and, as in the previous case, it was suspected that they had originated from frequent attacks of acute rhinitis. So I intimated to her mother what I thought to be her true condition, and she at once told me that the child was peculiarly subject to colds—in fact, that she would take cold without the slightest exposure and entirely irrespective of temperature; she would begin to sneeze and breathe stridulously, whether the weather was favorable or unfavorable. Her appearance was very similar to the preceding case, but, owing to her youth and irritable state, I have not yet made any satisfactory examination or local treatment, only ordering a general tonic and hygienic regimen.

With regard to the treatment of nasal enlargements, it is generally conceded that sprays, powders, douches, etc., are only palliatory adjuvants, and are by no means efficient for bringing about their entire removal or suppression. By far the most effective agent that we have is the galvano cautery knife or snare, or, in case of an exostosis or fibrous polypus, the burr drill and surgical engine, small saw or cold wire snare of Jarvis, Sajous and others may be used. Acids—acetic, chromic or nitric—may be employed in lieu of the galvano-cautery, but we have found, upon repeated trial, that they are more painful and difficult of application as well as less efficient and satisfactory in their results. According to my experience in simple chronic rhinitis monochloro-acetic acid is an excellent application, as it is neither very severe in its action nor very painful to the patient, and with it, as well as any of the above remedies, a simple application of a 4 per cent. solution of cocaine serves to render the pain almost nil.

Dr. Whittaker on the Specialists.—It is a lamentable fact that the least work was done by the specialists. There have been notable exceptions, but the fact remains. Sessions, whose subjects have been confined to specialists in medicine, have often been characterized by the absence of the men in our city who present themselves to the profession and the people as especially qualified in these matters. The profession views with suspicion a specialist who does not show sufficient interest in his department to attend the medical society on such occasions. Such specialists are like Thompson's razors, intended only for the trade. It is a question if the general practitioner is justified in turning over to these specialists any of his cases.—*Address before the Cincinnati Academy of Medicine.—Lancet-Clinic.*

Pulsatilla.—In the *British Medical Journal* Mr. Gerard Smith strongly recommends pulsatilla in "inflammatory states of the testicle, epididymis and spermatic cord." He says it "subdues promptly the intense suffering of such cases; and the relief is so rapid that it is even unnecessary to employ morphine to subdue the pain, while the swelling and heat subside more rapidly than under any other drug."—*American Practitioner and News.*

REPORT OF CHAIRMAN OF SECTION ON OBSTETRICS AND GYNÆCOLOGY.

By E. M. Littlejohn, M.D., Thomasville, N. C.

(Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.)

Mr. President and Gentlemen:—In offering to you my report as Chairman of the Section on Obstetrics and Gynæcology, I have borne in mind the fact that, when the reports of the chairmen of sections are so long, it allows too little time for discussion; reading of clinical histories, etc., pertaining to that section (as was called to our attention in a late issue of the North Carolina Medical Journal), I shall therefore be much more brief than has usually been the custom. Though, the subject of "Antiseptics in the Practice of Obstetrics" I consider of so much importance, that I will be more voluminous on this one subject.

OBSTETRICS.

The Application of Antiseptics in the Practice of Obstetrics.

This is a subject that we all know is not new, but as there seems to be some opposition to it of late, I have thought it proper to try to demonstrate *from facts* that the use of antiseptics in the practice of Obstetrics has done as much for the preservation of human life as Listerism and antiseptics have for surgery. In 1847 Semmelweis, then a clinical assistant in the Lying-in Hospital at Vienna, made the startling assertion that "puerperal patients were chiefly attacked with puerperal fever when they had been examined by the physicians who were fresh from contact with the poisons engendered by cadaveric decay; that fever ensued in the practice of those who, after post-mortem examinations, washed their hands in the usual manner, whereas no fever, or but few cases of disease followed when the examiner had previously washed his hands in a solution of chloride of lime." This observation was the foundation-stone, as it were, of our present knowledge of the application of antiseptics in obstetrical practice.

Before making a comparison between results obtained years gone by, when no regard was paid to the use of antiseptics in this branch of the profession, and results obtained at present, it would be well to state the views now accepted in relation to puerperal fever. According to the "Puerperal Fever Commission," appointed by the Berlin Society of Obstetrics and Gynæcology, this disease causes from ten to fifteen per cent. of the deaths occurring during the period of sexual activity, and has destroyed nearly as many lives as small-pox or cholera. There can be no question that the weight of evidence is in favor of those who claim that what was formerly known as puerperal fever is septicæmia, identical in origin, cause and results, with the surgical septicæmia formerly so dreaded in surgical wards of hospitals and in the private practice of surgeons.

It is, moreover, now clearly recognized that the great number of all puerperal inflammatory affections, such as cellulitis, metritis, peritonitis and the like, owe their origin to infection, and the attention of obstetricians has been drawn to what bacteriologists are doing in laboratories. It is to-day admitted by many obstetricians, and leading ones, that the infection in these cases must come from without.* Innumerable investigations have shown conclusively that the suppuration process, as well as many of the acute diseases termed infectious, are due to the activity of the lower forms of life known as bacteria. This is especially true of that class of affections which may be called "maladies following wounds." It may be considered proved by the experiments which have been made to determine, that in the healthy human organism there exist no bacteria. On the skin and mucous-membrane they are constantly present, but so long as the surfaces remain intact the most virulent organism known will do no harm; just as soon, however, as there is a solution of continuity and the bacterium is able to gain an entrance into the tissues of the body, then damage begins, provided the organism be possessed of pathogenic powers, in the first place. The first condition necessary for the hurtful activity of the bacterium to become manifest is that there shall be a solution of continuity—a wound of the skin or mucous-membrane. The second condition is that rather indefinite state of affairs called susceptibility, this being a lowering of the vitality, a depression of the blood-supply or some minute change in the cells, which it is beyond our power, as yet, to describe definitely. In the light of our present bacteriological knowledge the terms pyæmia and septicæmia no longer retain their original signification. In the words of Koch, "pyæmia does not arise, as was one time believed, from the entrance of pus into the blood-vessels, and septicæmia is not putrefaction of the living blood." These appellations can now be employed only as collective terms for a number of symptoms, which, in all probability, belong to different diseases; that is to say, are produced by the activity of different bacteria. It is only by the observation of these bacteria that one can say, with scientific exactness, what special form of pyæmia or septicæmia may be under observation. That this is distinctly true is proved in one way by Koch's observation of the bacillus of the mouse-septicæmia, which is fatal to the house-mouse and has no effect upon the field-mouse or rabbit, of pyæmic septicæmia and erysipelas in rabbits; and in the other way by the investigations of Rosenbach, Passet and others, who have shown that several varieties of bacteria are acting in the production of the suppurative and inflammatory processes in man. To what has been said regarding septicæmia and pyæmia, *puerperal fever* forms no exception.

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* "The Use of Antiseptics in Obstetric Practice," by W. L. Richardson, M.D. *Boston Medical and Surgical Journal*, January 27, 1887.

Notwithstanding Pasteur's work upon the subject, the best investigations show, without doubt, that puerperal fever must be considered to be a name given for the sake of convenience to a group of symptoms which represent the effects of an attack upon the system by one or more varieties of bacteria. This disease is eminently a traumatic wound disease. A woman passing through the puerperal state with no untoward symptoms, has never been found to have bacteria in the system, whilst those attacked by puerperal fever are invariably found to have bacteria in the tissues, blood-vessels or lymphatics of the affected parts. The two conditions necessary to the entrance and growth of bacteria are present in the parturient state in a pre-eminent degree. The uterus after parturition is, like any other wounded surface, exposed to the air passing over blood and organic debris, especially exposed to putrefaction and the entrance of bacteria, whilst the profound modification of its tissues, blood-vessels and mucous-membrane furnish the second favorable condition for their growth after obtaining entrance. The bacteria make their way in from outside. They are not born from anything in the uterine tissue—there is no spontaneous generation about it. The vagina contains bacteria in health like the mouth, and, like the bacteria in the mouth, those in the vagina do no harm. Even in a diseased state the ordinary putrefaction bacteria do not change their character, and puerperal fever and peritonitis do not result from their presence. It is only by the entrance of the pathogenic bacteria—and sometimes of more than one variety of these—that a disturbance is produced. These pathogenic varieties are *brought* to the uterus. They are not there at first, and are brought by the air or some other less suspected method of conveyance. The varieties of bacteria which have thus far been especially connected with puerperal fever, are :

1st. Rather long cylindrical filaments, appearing especially in rapidly fatal septicæmias.

2d. Streptococci or micrococci, occurring in chains, common in the milder forms of septicæmia.

3d. Diplococci or micrococci, occurring in pairs, and especially where there is suppuration.

4th. Micrococci in irregular masses.

Any or all of these forms may be found in a single case, and there is no doubt that these will, finally, be resolved into a more distinct and numerous classification. Unquestionably the problem is, how to keep these bacteria out of the body. Without their entrance there will be no puerperal fever or septicæmia. To my mind the problem is being solved by the use of antiseptics in the practice of obstetrics, and the time may come when the general practitioner of medicine, availing himself of this great advance in the Section of Obstetrics, may almost erase puerperal fever or septicæmia from the list of dangerous diseases attacking women in child-bed. How are we to prove our assertions? Not by means of those gentlemen who from time to time rush into print with reports of 500 or 1,000 cases of labor without loss of one (for we all know how prone people are to mention success and say nothing), but by results received in well-conducted maternites or lying-in hospitals under rigid antiseptic precautions. Let us first investigate the maternite of the great obstetrical centre, Vienna. The records of this institution show that during February, March and April, 1823, out of 698 women confined, 133, or 19 per cent. died of puerperal fever; in 1842, out of 3,287 women confined, 548, or 16 per cent. died; in 1846, out of 4,010 women confined, 459 died, and in 1854, out of 4,393 women confined, 400 died. Now, compare these statistics with the results obtained to-day in the same institution. Take the report of Ehrendorfer, assistant at the second Vienna clinic. He reports that in 1882 2,898 women were confined in his clinic with a mortality of one-half one per cent. Among these were thirty-five twin labors, sixteen face presentations, fifty-nine forceps operations, twenty-three versions, three embryotomies, two decapitations, one Cæsarian section, twelve craniotomies and seven placenta previa. Besides these complications 211 students had the privilege of the wards and were instructed in the touch and delivery. In 1884 there were 2,788 confinements with a total mortality of 33-100 per cent. The complications, as in 1882, were various, and the number of students receiving instruction was 324. Spiegelberg, of Breslau, lost only five patients with puerperal fever out of 901 confined. Prof. Lusk, in his book of the edition of 1885, reports that in Prof. Streng's division of the maternite in Prague during 1882 and 1883 no deaths occurred from septic causes in 1,100 confinements. Dr. Goodell, of Philadelphia, reports two deaths in 756 cases of confinement at the Preston Retreat. Dr. Garrigues has proved completely the efficacy of antiseptic treatment at the New York Maternite Hospital. From 1872 to 1882, inclusive, the number of confinements was 2,827, the deaths 116, a little over 4 per cent. In 1883 thirty died of 345 confined. At this time a reform took place which included the following antiseptic precautions: The wards were fumigated and the floors and furniture washed with a 1 to 1000 per cent. solution of hydrarg. bichloride. Every patient upon entering the lying-in ward, after the bath, had her abdomen, buttocks, genitals and thighs washed with a solution of the same (1 to 2000). During labor the vagina was irrigated with the latter solution. When labor was prolonged the irrigation was repeated every three hours. Great care was taken of the hands on the part of doctor and nurse. Glycerin and corrosive sublimate (1 to 1000) were used for lubricating fingers previous to making internal examinations. Antiseptic pad was applied to the head during egress, and to the vulva until after the placenta was expelled. Absorbent cotton, covered with netting soaked in bichloride solution, was applied to external genitals during child-bed period. This latter applied and removed with the same care as in dressing a wound after a capital operation. Irrigation first of the vagina and afterwards of the uterus, immediately after labor, in cases where the hand or instruments had been passed into the uterine cavity. After these precautions had been taken, in the following 162 confinements, there were *no deaths*, and from October to July, inclusive, of 409 patients confined, though many operations were performed, five died, but only three of these were from septic causes, and Dr. Carrigues believes they were the result of neglect of certain prescribed details. In the Boston Lying-in Hospital, from January 1, 1873, to December 1, 1884, 2,661 women were confined, with a mortality of 3.04 per cent. from septic causes, and during these eleven years the hospital was closed three times for several months on account of the great prevalence of puerperal fever. In 1885 antiseptic methods somewhat similar to those used by Garrigues, were adopted in this hospital, since which time there have been no deaths from septic causes, although during this time 681 women have been confined. In the face of such facts, which, if time allowed, might be greatly multiplied, he is an unwise, if not unfaithful, obstetrician who does not surround the puerpera with every possible protection against the entrance of septic germs through the gateway opened by the necessary traumatisms of labor.

To the general practitioner of medicine the facilities for carrying out the minute application of antiseptics in the practice of obstetrics cannot be so great as in a well-conducted maternite or lying-in hospital, but every medical man engaged in obstetrical practice should make every effort to approximate these minutiæ. He should ever be careful in attending a patient in labor, after being in attendance upon a case of puerperal fever, scarlet fever, erysipelas, etc. And when in such attendance he should disinfect his own hands and see that nurses or those who come in contact with the patient's parts, do likewise. For this purpose iodoform grs. 5, or carbolic acid grs. 4, to ℥ i of vaseline can be used. The examining finger should be smeared with this ointment afresh upon each examination. The genitals and surrounding parts should be washed in a 1 to 3000 solution of bichloride of mercury. And if forceps are to be used, the vulva and vagina should be washed out with the same solution before application. All instruments used should be thoroughly disinfected by washing them in a carbolic solution ʒ ii to a pint of warm water. I prefer carbolic solution as a disinfectant for instruments, as the solution of bichloride corrodes them. After the child's birth no undue haste should be made to effect the expulsion of the placenta. This should be accomplished by Credé's method of expulsion, care being taken not to introduce the hand within the vulva, vagina or uterus, if such can be avoided. The perineum should be carefully examined. If there is sufficient laceration to require suturing, the parts are washed with the solution of corrosive sublimate, and then the edges are brought together by means of carbolized catgut sutures, some powdered iodoform being subsequently applied over the seat of laceration. After this the vaginal injection is repeated and an antiseptic pad should be applied to the vulva; for this the ordinary napkin, smeared with iodoform ointment, answers a very good purpose in private practice. The bichloride solution can be made without *trouble* by using the antiseptic tablet manufactured by John Wyeth & Bro., of Philadelphia. The addition of one of these tablets to three pints of water, furnishes us with a solution of the required strength. The use of the antiseptic pad or napkin should be continued until the patient sits up or until all danger of septic infection has passed.

Whenever the mother has given birth to a putrid child or a partially decomposed placenta, an intra-uterine injection of the bichloride solution of the same strength is given at the close of labor, in addition to the vaginal one.

I believe that the acceptance of the benefits derived from the use of antiseptics in obstetrical practice and the application of the same by the general practitioner of medicine, would do much to decrease, if not efface entirely, that dreadful disease puerperal fever or puerperal septicæmia—a disease which in the past has destroyed as many lives as small-pox or cholera, but, as Dr. Lusk, of New York, has truly said: "Puerperal fever differs from either small-pox or cholera in that the latter presses largely upon the aged and very young, while the former (puerperal fever) gathers its victims exclusively from a selected class, viz: from women in adult life, the mothers of families, whose loss, as a rule, is a public, as well as a private, calamity."

Dr. John Bartlett read a paper before the Gynæcological Society of Chicago in which he proposes a substitute for Porro's operation, as follows: "The operation proceeds, as in Cæsarian section, till the child is removed, the actual cautery being used in opening into the womb. Then, instead of dragging the womb out through the abdomen, it is dragged out through the vagina. The operator passes a Wells' clamp, somewhat modified in its prehensile surfaces and properly curved in coincidence with the parturient canal, to the fundus of the uterus, and then secures a firm grasp into the uterine tissues. By traction upon the forceps and pressure and suitable manipulation from above the fundus of the uterus is depressed into the body of the organ, dragged through the cervix into the vagina to produce complete inversion. The clamping wire is immediately adjusted and excision of the uterus and appendages effected at a suitable distance from the vaginal junction. The abdominal wound is closed, and attention is given to the stump with reference to hemorrhage, as in Porro's operation."*

Hofmeir, of Berlin, in reporting on the progress of obstetrics and gynæcology in Germany, says there has arisen a good deal of opposition in that country to Credé's method of managing the third stage of labor. But I think these gentlemen will have to bring forward vastly more evidence in opposition to this than they already have, before we can think of giving up this *very reliable* and well recognized procedure.†

Although the leading authorities are very explicit on the subject of the use of ergot in obstetrics, yet I am aware that many physicians still employ it, whenever the labor is tedious, in the first and second stages. I therefore think it is not out of place to mention it here, and will just quote a few words from Lusk on "Obstetrics": "The only imperative exhibition of ergot is presented by the occurrence of *post-partum* hæmorrhage resulting from uterine atony. The unyielding, tetanic uterine contractions which it produces act most beneficially by occluding the orifices of the bleeding vessels. Even under these circumstances it should, however, be withheld until the expulsion of the placenta, lest the uniform uterine contractions lead to its prolonged retention or interfere with manual efforts for its extraction."

GYNÆCOLOGY.

During the past year many steps have been taken in advancing this branch of medicine. Abdominal surgery has been brought to a point that makes us hesitate no longer when the morbid condition demands it. The antiseptic mode of operating, with the enforcement of the rigid rules in regard to cleanliness has been so thoroughly established that the surgeon would scarcely think of opening the abdominal cavity without having at his command all the latest improvements in this line. Hot water is now considered one of the most valuable agents in the line of antiseptics—it not only acts as such, but to a very great degree prevents shock.

**American Journal of Obstetrics*, November, 1886.

†*American Journal of Obstetrics*, October, 1886.

Prof. Wylie, of New York, has reported in the *New York Medical Record* 125 cases of laparotomy in which he used hot water in cleansing out the abdominal cavity, etc., with the effect of very materially reducing the rate of mortality. And Prof. J. H. Scarff, of Baltimore, has done eight cases of laparotomy at the Maryland General Hospital during the year with two deaths. But the first death and the fifth case of the series was in a child of nine years of age, from which a 16-pound cysto-sarcoma was removed from the left appendages. A few hours preceding operation a severe hæmorrhage took place in the peritoneal cavity and the child died two hours afterwards from shock. While much has been done to reduce the death-rate in abdominal surgery, yet we cannot lose sight of the fact that, from an examination of all cases of laparotomy, we find such an overwhelming majority are for the removal of the tubes and ovaries. Can it be that the castrating of women has been carried to an excess, and not enough of attention is paid to the treatment of pelvic inflammations before resorting to this extreme expedient? This brings us to the consideration of the discussion that has taken place during the year upon the subject of pelvic inflammations. Emmett, of New York, read an able paper before the American Gynæcological Association on "Cellulitis versus Peritonitis." He cannot believe that it is proven that cellulitis is a thing of the past, and the large majority of so-called "pelvic abscesses" are fallopian tubes distended with pus, etc. Dr. Scarff, of Baltimore, who has given this matter much attention, thinks that "cellulitis is a rather uncommon disease when not associated with peritonitis, it is of short duration and rarely leaves a chronic abscess. He does not think it justifiable to remove the appendages except under the following circumstances: 1st. An undoubted diagnosis of pyo-salphynx, and only one tube should be removed if pus does not exist in both. 2d. The appendages should not be removed, in the absence of pus, until not less than four to six months of persevering treatment with the use of hot water douche daily.

Iodine locally and glycerite of alum tampons three times a week. If these do not succeed, then we are justified in taking away these offending members."

Intra-uterine medication is the balance of discussion to-day. Mundé, of New York, has recently published quite an extensive paper on the value of this method of treatment, and it has been heartily endorsed by many of the prominent men of the country. The universal opinion of to-day is that the cavity of the body of the uterus should not be invaded by the strong applications of the past, but the cervix demands them still.

The making of a new urethral orifice (Emmetts' Button-Hole Operation) for the relief of certain reflex bladder troubles, is destined to become an operation of great favor, as relief, in most cases, is said to be immediate and permanent. One case, operated on (and reported) by Dr. Scarff at the Maryland General Hospital, is worthy of mention :

Miss A., aged 24, unmarried, was admitted January 28th, with the following history : One year ago began to suffer from symptoms of cystitis, with most painful micturition. All ordinary means failed to give relief, and so annoying did the symptoms become, that the posterior wall of the bladder was laid open in order to explore the cavity. At this juncture her attending physician, Prof. Erich, died, and she was sent to this hospital. An examination under ether revealed nothing abnormal in the cavity of the bladder, but at the urethral orifice, and extending into the urethra one-fourth of an inch, were two deep fissures that were extremely painful and irritated by the salts of the urine. The opening made in the bladder had not been closed. Emmett's Button-Hole Operation was thought advisable, and it was immediately done. It consisted in cutting out a round piece from lower wall of urethra just above end of fissures. The mucous-membrane of the urethra was brought through the opening and stitched to vaginal mucous-membrane with catgut sutures, to prevent closing up of the opening. In three days the effects of the operation had passed away, and with it all symptoms of bladder trouble. The rent in the bladder has since been closed up, and the patient is now convalescing—urinating regularly through the false opening.

Alexander's operation for shortening the round ligament is rapidly growing in favor. According to Dr. Polk, of New York, "It affords the most rational method of relieving procedentia."

Dr. Eugene C. Gehrung, of St. Louis, writing in the *American Journal of Obstetrics*, under the head of "A New System of Uterine Medication," describes two instruments which he has invented—one for the application of liquids ("Aspirating Applicator," as he calls it), and the other for the introduction of powders in the uterine cavity. Both instruments are constructed with double canula (one inside the other), so as to allow ready efflux, which has been the great fault with most instruments heretofore devised for this purpose. They promise to add greatly to the safety and effectiveness of intra-uterine medication.

Dr. Miller, of San Francisco, has invented a very unique "uterine repositor." It consists of a thimble (to fit on the end of the index-finger) into which is screwed a stem of any length according to the size of the uterus to be replaced. He says: "It has all the advantages of either the plain uterine sound or any of the jointed instruments thus far recommended for replacing the retro-deviations, and none of their defects. It simply artificially elongates the index-finger, and gives the finger the same power as though the uterus had been previously dilated by sponge or sea-tangle for the purpose of introducing the finger, and then effecting reposition as recommended by B. Shultze. My thimble sound brings the uterus on the tip of the operator's finger, which is at once power and fulcrum, hence strains no tissue or ligament. The uterus being on the tip of the finger, is completely under the operator's control. The force which one employs is keenly appreciated, hence no undue strain is likely to be exerted on adhesions which are too strong to be safely lacerated, or even stretched."*

While many advances have been made in gynæcology, and means adopted for the relief of suffering women, yet death has, too, been showing his power in calling from our midst in the last year some of our highest minds in this field of science. I refer particularly to Profs. Shroeder and Erich, who have been called from labor to rest, and who have left behind them names that will be ever dear to the suffering companion of man.

**American Journal of Obstetrics*, February, 1887.

CLINICAL REPORT—VESICO-VAGINAL FISTULA WITHOUT AN ANÆSTHETIC.

By E. S. Ashe, M.D., Wadesboro, N. C.

Mrs. P., aged 25, married seven years; fistula has existed one year.

Owing to the inability of my father, Dr. E. F. Ashe, to be present, I operated on February, 1887, with the assistance of Drs. Carpenter, Dunlap and Kendall. Patient was placed in knee-elbow position, given four ounces of brandy and ¼ gr. sulph. morphia hypodermically. Erich's speculum was introduced, which revealed a transverse fistula nearly two inches in length. With Sims' small knife I beveled the edges. The edge of the fistula, at the point which was most difficult of access and manipulation, was caught by the tenaculum and an incision made from the vesical border outwards to the vaginal mucous-membrane, removing as complete a circle of tissue as was possible. We used the silver wire sutures, passing them half an inch from the incision on the vaginal mucous-membrane to the vesical border, bringing them out half an inch on the opposite side; twelve sutures were used and placed 1-6 inch apart (Sims' self-retaining catheter was left in), which were removed on the tenth day by Drs. Carpenter and Dunlap, who found *complete union*; no urine has passed through the wound, and the patient is rapidly improving in general health. The speculum I used is made on the same principle, but an improvement on Sims'—it is bivalve, so that the vagina can be dilated to its utmost capacity; a screw is attached so that the end of the speculum can be dipped down in the hollow of the sacrum; it also has a circular plate which fits against the sacrum with a tape attached, passing around the shoulder. The operator needs no assistant to hold speculum, and obtains a most excellent view. In paring the edges of the fistula it is much better to make a complete circular incision, so that no undenuded surface or cicatricial tissue will be left. The best time for operating is during the week following the cessation of the menstrual period; if done earlier the flux will be likely to return; if later, precipitated; in either case it is liable to be hæmorrhagic and will mar the success of the operation.

UTERINE HÆMORRHAGE OF PROBABLE MALARIAL ORIGIN.

By F. W. Potter, M.D., Wilmington, N. C.

Mrs. N. came to the city from her home, in the country, to consult me relative to pain in her right iliac region. She stated that she was the mother of two children, the youngest of whom was 14 months old, and she feared some damage was done her during her last labor; that the pain was not severe prior to three months since, and that she believed, if that was not the cause of her trouble, it was due to lifting her child around, in addition to attending to her children, doing her washing, etc. She appeared to be stronger than most women in her station in life, her complexion was very ruddy and clear, and she was of stout build. She submitted to an examination, which revealed a slight retroversion of the uterus, with tenderness on pressure per rectum; the fundus may have been a little enlarged. I introduced an Albert Smith pessary, but she could not wear it on account of the sensitiveness of her womb. Instead I used cotton pessaries, or packing, with much better results, and in the course of two months her pain was nearly relieved, and she could wear the Smith pessary with the greatest comfort, in fact, would not do without it, stating that while wearing it she did not know she had a womb. She continued to use it three months, and then dispensed with it entirely. She became pregnant in the course of a month or so after leaving it off, and did very well for four or five months, when she suffered again from her old enemy, pain in the flank. Rest was enjoined, as in the first instance, and quinine and elixir valerianate of ammonia prescribed, which had a very satisfactory effect up to within two months of her confinement, when she complained again, and, as she feared considerable trouble with her labor, remained in the city that she might have a physician to attend her. I will hasten to reach the point in question. She did not have, as expected, a hard time, as she termed it; all went off well, except she got up the third or fourth day after her delivery, and walked around considerably, the result being that she was thrown back very much in process of reparation. Some three to five months after delivery she again suffered from pain in her iliac region, more than ever, especially a few days prior to, and after, her menstrual flow. (She did not nurse her child.) Regularly every two weeks, beginning about 3 o'clock, hæmorrhages came on, and, strange to say, could not be arrested by ergot, opium, elixir vitriol internally, nor by sugar of lead and alum injections. I prescribed rest in bed, as before, gave quinine, but not with the desired result, until the dose was increased to 40 grains every twenty-four hours, beginning to administer it five days before expected paroxysm, with complete arrest of pain and hæmorrhage. This was the goal I was aiming to reach, but thought a history of the case would be of interest in pointing out the probable cause, and we have come to one conclusion—that it was more or less of a malarial origin, and the great anti-malarial and anti-periodic cured the case.

TREATMENT OF DIABETES.—Dr. Mitchell Bruce, in *Practitioner*, January, 1887, draws attention to the value of the acetate of morphine in combination with strict diet in this affection, the drug being rapidly increased in dose to as much as 7 grains per diem. He found it ineffective when given hypodermically, and infers that in his patient the glycogenesis was hepatic, the morphia acting fully only when taken up by the portal vein. He thinks that by this means we can determine whether the excretion of sugar is due to hepatic or general (muscular) production, or to non-destruction, as in the last two instances hypodermic medication should be as efficient as that by the mouth. He had found little utility in the various supposed remedies which have been introduced of late, including arcenite of bromine and salicylate of soda, but he has pointed out that diabetes in elderly persons is often a very tractable disease, easily controlled by dietetic regulations, and in such cases any drug may appear to succeed. Surgeon-Major Gardner (*Indiana Medical Gazette*, August, 1886,) has recorded a case of diabetes benefited by pepsine in 5-grain doses, given twice daily in conjunction with diabetic diet. Jambal or jequirity seeds, in powder, have been used as a remedy for diabetes. Mr. W. L. Scott, in the *British and Colonial Druggist*, finds that this powder hinders the diastatic action of the malt ferment. The present writer could observe no result from this drug.—*American Practitioner and News.*

SOME PRACTICAL REFLECTIONS ON FOREIGN BODIES IN THE EAR.

By Richard H. Lewis, M.D., Surgeon for Diseases of the Eye, Ear, Throat and Nose to the Hospital of St. John's Guild, and that of the Leonard Medical School, Raleigh, N. C.

(Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.)

The idea has suggested itself to my mind that, perhaps, as a general thing, from pride in our Society and our desire to present something worthy of it, we are too apt to think that our papers should embody something original, or should reach the dignity of elaborate essays. As a result, many of our very best men are deterred, either by modesty or a want of time, from contributing, as they should, and under a different impression might, to the interest of our meetings. By throwing the light of their own observation and experience on the ideas and work of others, they could add no little, not only to the interest, but to the value, of our proceedings.

In accordance with these views, I desire to cast in my mite by making

SOME PRACTICAL REFLECTIONS ON FOREIGN BODIES IN THE EAR.

A full consideration of the subject, it will be noted, is not intended. Indeed, it would be contrary to the principles laid down in the beginning. What I wish to do, inasmuch as I have not invented any new and ingenious instrument for their removal, nor devised any new method of using those already in vogue, is to call attention to, and to particularly emphasize, certain things in connection with their surgical management. These things are: 1. The importance of being *certain* that there *is* a foreign body in the auditory meatus before any attempt, is made to remove it. 2. The advisability, in attempting its removal, of first exhausting the resources of the syringe and warm water before resorting to instruments. 3. The objections to the use of forceps, and 4. The dangers of doing too much.

It is a well-known fact that children are very much given to putting things in their ears, and some adults have the same weakness, though with the latter the presence of foreign bodies in the meatus is nearly always the result of accident. In consequence every conceivable variety of object, from a pea to a jaw-tooth, has been discovered in the aural canal, though such common objects as peas, beads, buttons, cherry-stones, pebbles, etc., are most frequently found. But the physician should never accept the testimony of the child or its parents as to its presence. Nothing should satisfy him but a sight of it with his own eyes—not feeling it with a probe, for many have been deceived by striking the bony wall of the canal. This ocular demonstration, unless the body be situated very near the entrance, cannot be made without some means of illuminating the meatus, and, therefore, every practitioner should be provided with a nest of ear specula and the ordinary perforated concave mirror, attached to a head-band, so that the hands may be free if occasion for their use arise. I almost feel as if I ought to apologize to the Society for dwelling on this matter, but not a few attempts, based on the testimony of the child or its parents, or by better men on the testimony of the probe, have been made to remove foreign bodies which were never in the meatus at all. And there are some cases recorded in which the too eager pursuit of this otic will-o'-the-wisp, if I may be allowed the expression, has caused the death of the patient. Such a termination would be sad enough if the result of a well-directed effort to remove something which might be dangerous if allowed to remain, but when the consequence of a crazy chase after an *ignis-fatuus*, it is exceedingly deplorable, to say the least.

When it has been ascertained, beyond peradventure, that there is a foreign body in the canal, a judicious effort should be made to remove it. The first step *always*, with exceedingly rare exceptions, in this judicious effort, is the faithful and correct use of the syringe and warm water. I say *correct* use of the syringe, because the neglect of certain apparently trifling details will, in very many cases, make all the difference between success and failure. These details are, first, that the syringe should have a reasonable amount of power. The common glass syringe does not act well, but in the absence of a regular aural syringe, the Davidson will answer fairly. But no physician should be without the ordinary hard rubber aural syringe, which can be bought at any well equipped drug store for seventy-five cents. Secondly, the nozzle should be quite small, so as to concentrate the force of the jet as much as possible. In this respect the Davidson is defective. A small nozzle can be made by drawing out a glass tube in the flame of a spirit lamp, smoothly sharpening a reed of small calibre, or, best of all, if it be at hand, by slipping one end of a piece of very small india-rubber tubing or flexible catheter over the large nozzle. One special advantage of the tubing is that, being soft and flexible it can be pushed close up to the body without risk, and the full force of the jet in that way obtained. Thirdly, the meatus must be *straightened* by pulling the auricle firmly upwards, backwards and outwards, and holding it in that position, while, fourthly, the stream is directed forcibly against the wall of the canal quite close to the body. The upper wall is to be preferred, as a rule, but if that fails, it should be tried against the other walls in turn. Although the body may fill the meatus so that no water can pass beyond it still the whirling motion of the latter will often loosen and dislodge it. In fact, in an immense majority of cases, especially when the body is in the outer or membranous portion of the meatus, as it is almost sure to be if it has not been tampered with, the syringe will prove effective In order to give the syringe a fair trial, it must be remembered that it should be used with considerable force. The presence of the foreign body will prevent any damage to the tympanum.

This method failing, the following may be tried: Make a clean stick of the proper size and adapt one end, as nearly as possible, to the shape of the presenting portion of the foreign body. See that the body is thoroughly cleansed and *dried*, more especially if there be discharge. Dip the fitted end of the stick in melted glue, and, quickly applying the same, hold it firmly in position until the glue hardens. If, upon withdrawing the stick, the pea or bead, or whatever it may be, does not come with it, the only thing left is a resort to instruments. The instrument one would most naturally think of is the forceps, but the forceps, as a general thing, is objectionable, for the following reasons: The bodies commonly found in the aural canal are usually more or less spherical, and they are, besides, nearly always hard—so hard that the teeth of the forceps cannot easily engage their surface. They are, too, for the most part, of sufficient size to completely, or almost completely, fill the meatus. In consequence it is very difficult to find room for *both* blades of the instrument to pass between the body and the walls of the canal, so that when the forceps is closed, the teeth, instead of falling on the opposite ends of a diameter, impinge upon the convexity of the outer half. The substance being too hard for them to take hold, they slip off, and, as a consequence, the object is pushed further in. "Hope springs eternal in the human breast," and we are very prone to think that the next time we will certainly succeed, and so, repeated efforts are made, until the body is pushed beyond the isthmus, and then its descent to the drum is very easy. Knowing from my own experience how very apt one is, in the rush of active practice, to forget anatomical details which are not daily brought to his notice, I shall take the liberty of calling attention, just here, to the fact that the external auditory meatus is narrower a little beyond midway than at either end. In its relation to our subject this is a very eloquent fact. for any one who keeps it in mind will be very careful in his manipulations not to urge the foreign body beyond that constriction.

The most efficient instrument is a vectis, or hook of some kind, the best, probably, being the fenestrated curette. An admirable instrument is the forceps devised by Guye, of Amsterdam. Being simply the obstetrical forceps in miniature, each blade is a fenestrated curette, and can be used separately as such, but it is better in many cases to introduce the second blade also, while the foreign body is held in place by the first, and, locking the two, to extract it. Gross' curette, which has a tooth at one end, is a simple and useful instrument. But fenestrated curettes, Guye's forceps, and such other special appliances for this purpose, do not usually constitute a part of the armamentarium of even the most advanced physicians, so that the matter practically narrows itself down, after all, to doing the best possible with the means at hand. A bent probe will often make a very effective hook, and every one has a probe. If mislaid, there are very few who cannot extemporize a hook of some kind, or a wire loop, which will answer to the fenestrated curette. The point to remember is that no means should be used which is liable to push the body any further in. And it should never be forgotten that no hard instrument ought ever to be introduced into the ear except under a full illumination, and the surgeon should never take a step unless he can *see* what he is doing.

In the fourth place, I wish to call attention to the fact that foreign bodies in the meatus are by no means such serious matters as is often thought. "Experience has taught," says Politzer, "that the consequences attributed to foreign bodies are, with few exceptions, due to the awkward attempts made at extraction by non-professional hands." He mentions the case of an old man from whose ear he removed a slate-pencil which had lain quietly unnoticed in the meatus for fifty years, and he also cites a case in which a pea remained for two years without exciting pain or inflammation. Unless the foreign body excites unpleasant reflex symptoms, as it sometimes does, those symptoms varying from a cough to marked interference in the nervous functions, and the syringe fails to dislodge it, it is often better for one not prepared with the necessary apparatus to do the work properly, to omit any attempt and let it remain. Remembering the statement of Politzer, cited above, we should make it a point, as occasion arises, to educate the laity in this matter by impressing upon them the risk of any one's attempting this apparently simple and trifling little operation who does not know exactly what he is doing. But according to the statistics unfortunate consequences have, in a few instances, followed efforts at extraction made by members of the profession. It therefore behooves us to bear in mind the exceedingly important relations of the tympanum, and never to permit the fear of failure, or the desire to succeed in accomplishing an object, to cloud our judgment. Such a caution, I am sure, is not needed by my hearers; but the idea of failure, even in the smallest matter, is so galling to some temperaments, and the courage necessary to its candid admission is, oftentimes, so great, that it may not, after all, be superfluous.

ICHTHYOL IN ERYSIPELAS.—In a late paper by Prof. von Nussbaum, of Munich, on "Erysipelas," the author speaks very highly of the use of ichthyol, in the form of an ointment, made of equal parts of ichthyol and vaseline, to be painted over the whole erysipelatous area, then covered with ten per cent. salicylic lint, and fixed with a gauze bandage. In erysipelas of the face ichthyol collodion is to be preferred, and on the hairy scalp, ichthyol soap.—*American Practitioner and News.*

PERHAPS it is not generally known that the disagreeable effects which a sea voyage or a railway journey have on some persons can be averted by getting the patient under the effects of a bromide before starting, and continuing in small doses during the trip.—*College and Clinical Record.*

SELECTED PAPERS.

THE ADMINISTRATION OF GASEOUS ENEMATA.

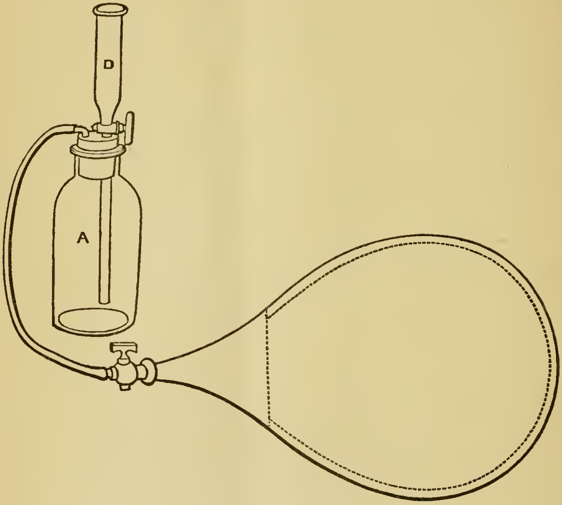
A large share of professional and public attention has quite recently been directed to the administration of gaseous enemata for the treatment of blood-poisoning and of affections of the respiratory passages. The object in view is to supply to the venous circulation an antiseptic, such as hydrogen sulphide, in sufficient doses to be effective; a result impossible when supplied directly to the arterial current, a plan which would poison the patient. Hydrogen sulphide, inhaled in far less than sufficient doses, would suffocate the patient; taken by the stomach, it would produce other serious results. Administered by the bowels, however, and entering the venous current, already deteriorated by organia refuse, it is quickly eliminated by the respiratory tract, which thus becomes subjected to its beneficial local antiseptic effects without subjecting the system at large to injury, as when thrown into the arterial current. In other words, the parasite is killed, without killing the individual. Its beneficial effects in phthisis are explained by the action of the gas on the suppurative and septic surfaces, and not by any influence on the bacillus tuberculosis; the consumption proper, the exhaustion, being due to the suppuration and to the consequent septicæmia, and not immediately to the bacillus, which, while it produces the destruction of tissue, does not produce the morbid phenomena. The method of administration utilizes the discovery announced by Bernard in 1857, that toxic materials introduced into the economy through an organ at a distance from the arterial system could not penetrate into the arterial system because it is eliminated before that system can be reached. Volatile substances are eliminated by the pulmonary alveoli.

On July 12th, 1886, Dr. Bergeon communicated to the French Academy of Science the results of several years' investigation into the method, and Prof. Cornil also presented later a paper on the subject. The forms of apparatus at present in use are based upon designs furnished by Dr. V. Morel, of Lyons.

Various antiseptic gases and vapors have been tried, but abandoned, on account of local irritant action, but a mixture of carbon dioxide (carbonic acid gas) and hydrogen sulphide (sulphuretted hydrogen) is entirely harmless when properly used and completely deprived of atmospheric air.

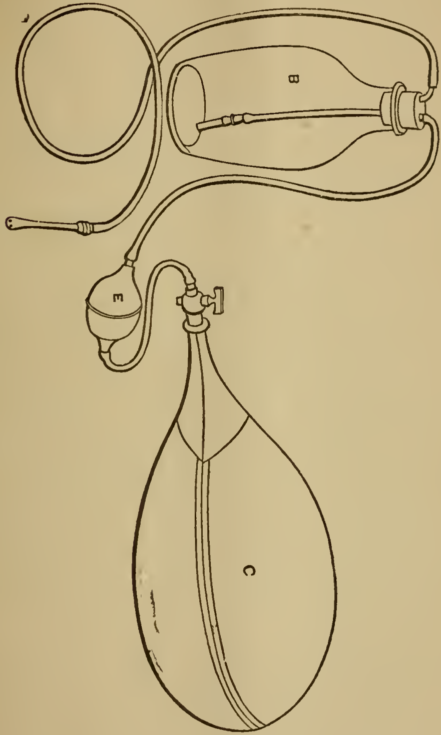
Since the object of this article is entirely practical, it will not be necessary to discuss the physiological action or the therapeutical theories involved. There will simply be presented descriptions of the more recent forms of the apparatus and of the method of use.

The apparatus exhibited in the accompanying cuts was designed by Mr. J. A. Kyner, Superintendent of the Polyclinic, in imitation of one of Morel's apparatus lately imported by Dr. J. Solis-Cohen.



The apparatus, as constructed by Dr. Kyner, is now in use at the hospital of the University of Pennsylvania, German Hospital, Home for Consumptives, and by quite a number of private practitioners, and the form is now manufactured by Messrs. J. W. Queen & Co., of this city.

The apparatus consists of a generator, a reservoir, a bulb apparatus for injection, and a vessel for holding the sulphur water. To generate the carbon dioxide, put one avoirdupois ounce of sodium bicarbonate and one fluid ounce of water into the wide-mouth jar; close the jar with the rubber stopper carrying the funnel-tube and short delivery-tube. Fill the funnel with dilute sulphuric acid, made by adding four fluid drachms of strong acid to four fluid drachms of water. By means of the stop-cock on the funnel-tube,



allow about a teaspoonful of the acid to run into the bottle so as to generate sufficient gas to expel the air in the bottle. Then, having rolled the reservoir tightly to exclude all air, connect it by means of the rubber hose to the generator, and continue the slow addition of the acid from the funnel-tube until the reservoir is filled. The quantities above given for charging the generator will be found about sufficient to fill the reservoir. Dr. Bergeon recommends that the acid be prepared at the bedside, but Mr. Kyner has used it entirely successfully after being kept six hours in a heavy vulcanized rubber bag, such as is now furnished; but Dr. Bergeon used a lighter bag, which had not the power of resisting diffusion. This, probably, explains the difference in results. When the reservoir is filled it is detached from the hose and the stopcock immediately closed.

To administer the gas, the reservoir is attached to the free end of the syringe bulb; the wash-bottle being about three-fourths filled with sulphur water, is stood in a basin of warm water and closed by the rubber stopper carrying two tubes, attached to the other end of the syringe bulb. The stopcock of the reservoir is opened and sufficient gas forced through by means of the syringe bulb to expel the air from the wash-bottle and tubes; the hard-rubber vaginal syringe pipe is then well inserted into the rectum and the gas pumped very slowly. From one to six quarts is the amount administered according to circumstances. From four to five minutes should be allowed for the injection of each quart. The patient should lie on the right side or on the back. Should any difficulty occur from the escape of gas from the rectum, the patient's legs should be extended so as to compress the sphincter.

It is the universal statement of patients that the injection can be given more satisfactorily and with less uneasiness when the bowels have been emptied. Two injections a day should be given. Since the injection interferes slightly with digestion, it should be given either one hour before or three hours after a meal. No pain except that of slight distention of the bowel is felt unless air is present in the apparatus. The natural sulphur waters used in this city are the Red Sulphur Springs of Virginia, and the Mount Clemmens water of Michigan; the latter is to be preferred since it contains about ten times the available sulphur compounds. The same portion has been used satisfactorily for three consecutive injections, and still smelled strongly of the gas. Although artificial waters have been said to cause pain, the following formulæ have been used without any difference of effect from natural waters having been noticed by the patient :

℞.	Sodium sulphide, pure,		
	Sodium chloride,	āā gr. v	
	Water	f℥ xxij.	M.

This is the formula first used at the Philadelphia Hospital. The hydrogen sulphide is formed by the action of the carbonic acid on the sodium sulphide substantially according to the following reaction:

$$Na_2S + H_2CO_3 = Na_2CO_3 + H^2S.$$

When pure sodium sulphide is not attainable, the *potassium sulphuretum* or corresponding sodium compound may be used. These must be used in rather larger proportion, and produce an objectionable white precipitate of sulphur.

When a stronger sulphur water is desired than that produced by the above formula, the following may be used:

℞.	Sodium sulphide, pure	gr. x
	Dilute hydrochloric acid, U. S. P.	♏xxx
	Water	f℥ xxii.

Mr. Kyner, who has proposed this formula, prefers to keep the liquid on hand after use, and freshen it up for subsequent use by additional quantities of sodium sulphide and dilute hydrochloric acid. This freshening up should be done whenever the liquid ceases to smell of the hydrogen sulphide. A liquid so kept seems to acquire more nearly the characteristic odor of the natural water. If the sulphur water is of sufficient strength, the patient's breath will, in about five minutes after beginning the administration, darken lead acetate paper, and will continue to smell of gas for an hour after the process is discontinued. It may be well to remark that metals, especially silver, are readily tarnished by the sulphur gases.

The method has, up to the present, been used upon about one hundred cases in this city without any untoward effects, so far as known, except in one or two instances, one of which was due to a leaky bag, and another to incorrect administration.

It is, perhaps, too soon to decide positively on the therapeutic value of the new method, but it seems in the experience in this city to have the special quality of diminishing night-sweats and improving the appetite.

In Bergeon's cases the trifling expectorations of those apparently practically cured continued to contain bacilli. This fact may be taken both for an indication that the immediate danger in phthisis is less from the bacilli than from the septicæmia which they set up, and as an indication that this protective treatment, when successful, should not be discontinued until the general healthiness of the tissues is sufficiently restored to resist the further development and sustenance of the bacillus tuberculosis.—*The Polyclinic.*

One difficulty with Bergeon's method of treatment in private practice is the cumbersomeness of the apparatus and the skilled labor required for the preparation of the carbonic acid. A plan which would avoid this and reach the same result in regard to the lung-disease is certainly a desideratum.

According to Gay-Lussac and Thénard, water at 52° Fahrenheit will absorb three times its volume of sulphuretted hydrogen. To prepare this solution, the gas, previously washed with water, is passed alternately through each of two bottles half filled with water; while it is being passed through one, the other is closed with the stopper and shaken, to insure complete absorption; and thus the process is continued till the water is completely saturated. One of the bottles is then completely filled with the liquid, and removed with the mouth downwards. The resulting solution is a colorless liquid, having the odor of putrid eggs and a sweetish taste. When heated it evolves the whole of the gas. Bottles containing the solution of the sulphuretted hydrogen should be habitually laid upon their side.

A priori, there is no evident reason why this solution, if injected into the rectum, and found it free from any irritant action. The habitual use of injections two or three times a day is, however, very disagreeable to most patients, and the questions naturally arise, Is there any necessity of administering the drug by the bowels, and Will not sulphuretted hydrogen water be taken without too much repugnance by the mouth and without nauseating? At the various sulphur springs large quantities of such water are habitually drunk by the patients. Led by such considerations, I have tried the sulphuretted hydrogen water in as many cases as I have been able to get, and so far, when properly given, it has been usually taken readily, and has not disagreed with the stomach. Some persons, however, will not tolerate it at all. The effects upon the disease have seemed to be entirely similar to those produced by the injections. At first a half-ounce, afterwards an ounce, of the saturated solution of the sulphuretted hydrogen should be placed in a tumbler, and two or three ounces of carbonic acid water be run into it from a highly-charged siphon, the whole being drunk while effervescing. This may be given three to five times a day, so that the patient will receive daily between a half-pint and a pint of the sulphuretted hydrogen gas. Injections of gas into the rectum produce in some persons more or less violent attacks of colic, especially if given at a time when the food is well down in the intestinal tract. Thus, in the case of Mrs. L., the night injection caused so much pain that it could not be borne, although the injection in the morning was actually pleasant. The two methods of administration were then combined, the gas injection being given in the morning and the sulphuretted hydrogen water in the afternoon and evening. Within the last forty-eight hours, at Mrs. L's earnest request, the gas injections have been entirely abandoned in favor of the exhibition by the mouth. Of course the two methods are simply different ways of accomplishing the same result, and may be variously combined or substituted for one or another, according to the peculiarities of the individual cases within the last day or two.

It is a matter of the greatest importance to fix definitely the dose of sulphuretted hydrogen gas. With the method employed in the Philadelphia Hospital this cannot possibly be done. The solution employed in the Hôpital Cochin, whose formula is given in the first part of this article, seems to be superior to the solution of the chloride and the sulphide of sodium, in affording known quantities of sulphuretted hydrogen. Even with it, however, the chemical reactions are so slow that practically it is scarcely possible to decide how much of the gas is evolved in a brief time. The substitution of sulphuric for tartaric acid would largely obviate this. When the medicine is given by the mouth exact dosage is possible. In Mrs L. five-ounce doses appeared to be too much. She is now taking three doses daily.

In a recent number of the *British Medical Journal* it is stated that M. Morel affirmed before the Biological Society of Paris that the dose of the gas is twenty-five cubic centimetres. That it is not incapable of doing harm is shown by the experiments of M. Peyron, who injected into the rectum of a dog one hundred and fifty cubic centimetres of a saturated solution of sulphuretted hydrogen in two doses at intervals of three minutes. Symptoms of poisoning began to be manifested within two minutes, and death took place within ten minutes, Another dog died quickly after two injections of the same strength, given at intervals of twelve minutes, while two others, in whom only very small quantities of the gas, or large quantities very much diluted, had been injected, experienced only slight inconvenience, and rapidly recovered. Not long since, in the University Hospital in Philadelphia, about one quart of a mixture containing equal quantities of carbonic acid and sulphuretted hydrogen were injected into the rectum of a patient; within three minutes the man was unconscious and apparently dying. The breathing rate was one hundred per minute, and the respirations so shallow that they could scarcely be observed. The pulse at once became very rapid and feeble, and even imperceptible at the wrist, while a very marked odor of sulphuretted hydrogen appeared in the breath. Under treatment the symptoms all subsided in about fifteen minutes. The rapidity with which these symptoms developed and with which they subsided indicates that when the gas is thrown into the rectum its effect is very immediate and fugacious, and it is entirely possible that the more continuous influence of rectal injections of the aqueous solution of sulphuretted hydrogen may act better in pulmonic diseases than does the short influence of the gases now administered. Of course poisoning by over-doses of sulphuretted hydrogen is no more valid objection to its proper use than is opium-poisoning to the employment of opium.—*Therapeutic Gazette.*

PROF. DA COSTA recently presented to the class at the Pennsylvania Hospital a typhoid patient having a most marked jaundice in the third week of the disease. This is a very rare occurrence, and in this case was due to a catarrhal process going on in the biliary ducts. His treatment was gr. iij of sodii bicarb. and gr. $\frac{1}{8}$ calomel, every two or three hours, with favorable results.—*College and Clinical Record.*

THE BEST TESTS FOR ALBUMIN, AND SOME POINTS RELATIVE TO URINARY EXAMINATIONS.

By Henry B. Millard, M.D., A.M., Etc., New York.

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THE BEST TESTS.

Nitric-acid test.—The Clinical Society of London last July reported that it found this, all things considered, the best test, that is, the most reliable and delicate, and with proper precautions it is, in many cases, highly satisfactory. To employ this another precaution besides clarification is often necessary; however clear the urine, if urates exist in excess, they form with this reagent a turbid white zone above and in contact with it; this is not usually very dense in appearance, the part next the acid being, as a rule, most dense, the upper portion less so; sometimes, indeed, when with an excess of urates albumin is present, this latter will be seen as a sharp line below the zone produced by the urates, but the discrimination is not always easy. And permit me here to say that if, in referring to methods of using reagents, etc., I state some facts which should be familiar to every tyro in medical practice, it is not because I impugn mentally the high intellgence of the audience I have the honor of addressing, but because these facts form a natural and indispensable part of the context. When there is reason to suspect the existence of an excess of urates these may be dissolved before testing by letting the test-tube stand in hot water, not boiling, as this coagulates albumin, but having a temperature somewhat under 140° F., albumin coagulating at and above this figure. There is now no danger of this zone being formed, and a drachm or so of the acid being placed at the bottom of the tube, which is better for having a diameter of as much as three-fourths of an inch, the urine should be allowed to trickle slowly down upon it. If much albumin be present, it is quickly coagulated by the contact, and a white, lardaceous layer is at once formed. We will suppose that all the directions I have given have been followed, the test-tube is held before a clear, bright light, a book or some dark object is held before the layer of acid, but no sharp line appears, nor white layer nor cloud of any kind. We must by no means conclude that albumin is not there, but allow the urine to stand five, or even ten or fifteen, minutes; then, sometimes, we shall then find a thin, clear, sharp line visible only upon careful scrutiny, and perhaps underneath it a colored zone produced variously by uric acid, biliary acids, iodine should the patient be taking iodide of potassium, etc., and above the albuminous ring, sometimes half way between it and the surface of the urine, an irregular ring of less density, probably mucin. If the urine be allowed to cool we may find four distinct zones: first, the orange-colored one, then one albuminous, the next formed by the urates, the upper one mucin. Dr. (now Sir William) Roberts says the mucin zone can be recognized by twirling the test-tube, when it will become diffused, while the albuminous layer will not. "Traces of mucin in a state of solution," says this author, "seem to be present in all urines, healthy and morbid, and this occasions more frequent embarrassment than any other substance." Nevertheless, nitric acid is troublesome, as giving a reaction when mucin or the elements in question are present. Still, according to Roberts, it is easily distinguished from albumin by being precipitated by weak, but not by strong, nitric acid and by forming a zone at some distance *above* the acid. When, however, mucin and the substances which pass for it are present in abundance, the discrimination by nitric acid is by no means simple. This reagent has the merit of not precipitating peptones or protein bodies. It produces a precipitate when resinous oils, as copaiba, cubebs, etc., are being taken, but this readily disappears on adding alcohol.

The *nitric magnesian test*, as I shall term it for the sake of brevity, is a modification by Dr. Roberts of the test by pure nitric acid, and is described in an article by him in the *Medical Chronicle*, October, 1884. It is prepared by mixing one part of pure nitric acid with five parts of a saturated solution of the sulphate of magnesia, and filtering. The principal advantages claimed for it by Dr. Roberts are that it does not stain nor soil the fingers, that it does not show a coloration with iodine, and, most of all, that it is a more delicate test than pure nitric acid. It is used the same way as the latter, a drachm being poured into the bottom of the test-tube, holding this nearly horizontal, so that the two liquids do not commingle, since if they do the mucin and albumin are precipitated together, but otherwise are precipitated at different points.

I have used this reagent with chemically pure blood-albumin, made for me by Merck, of Darmstadt, and with a large number of specimens of urine, acid, alkaline, containing mucin, pus, the *débris* and dissolved elements found in inflammatory conditions of the vagina, bladder, etc., first, of course, freeing as thoroughly as possible the urine from these substances, and do not, from my own experience, at least; hesitate to pronounce it, as regards delicacy, accuracy and facility of employment, the most satisfactory test I have yet used. I have been able to discover by it albumin in the urine of chromic interstitial nephritis when no other test but Tanret's, or the equally sensitive one introduced by me of phenic and acetic acid and potash, would show it, and in the clarified urine of the male where the urine was remarkably clear and there was no inflammation, when it was not shown by nitric acid. In an extensive series of experiments made by me to determine the delicacy of certain tests, many of which were published in the *Medical Record*, in 1885, I found that nitric acid would not show more than one part of albumin in 100,000, that is, 0.163 grain to the litre, and I find that the nitric-magnesian test will show a smaller proportion.

It is not of much importance, everything else considered, if the amount of albumin do not exceed one part in 10,000, that is, one one-hundredth of one per cent. (equal to 1.63 grain to the litre). If urine containing about one-tenth of one per cent. of albumin be diluted with distilled water, so that it will contain, say, one one-hundredth of one per cent., the nitric-magnesian test would usually be found to form a layer not more than one-half as thick as that produced by nitric acid, but much more compact and dense. Now, the former test possesses this very great advantage: that it condenses more thoroughly the albumin than does the nitric acid. It often happens that the zone produced by nitric acid will be light and fluffy, mucin or the substance I have so often referred to being directly in contact with it in considerable quantity, while that produced by the nitric acid and magnesian test would be condensed, compact, lardaceous and clearly and sharply defined, the precipitate produced by the obnoxious elements being distinctly separated from it. This advantage I find in nearly every instance; a double advantage, as it not only shows clearly the presence of albumin, but makes it possible to determine with sufficient approximation the percentage of albumin contained in the urine. If every precaution be taken, Hofmann's and Ultzmann's rule—that of a sharp, clear layer of albumin every three millimetres (about one-tenth of an inch) in thickness, indicates one-tenth of one per cent. of albumin—is sfficiently exact for clinical purposes. I have repeatedly verified the excellence and convenience of this rule; the nitric acid, however, often condenses the albumin so imperfectly that an albuminous zone, which, from its imperfect concentration, has apparently a thickness of two or three lines, does not really represent more than *one* line. The nitric-magnesian fluid produces such a compact layer that it can be taken with more confidence as a basis for the estimate of the quantity of albumin. In regard, once more, to the delicacy of this test, I have found it to show the presence of albumin after diluting it to a point where nitric acid ceased to show it, and have occasionally found it to show albumin when even Tanret's test did not. From my experience I believe it to be easily a third more sensitive than nitric acid; that is, if this last test would show one part in 100,000, the test in question would show one part in 150,000. I must not, however, omit to state that this test cannot be used with urine that has been clarified with liquor potassæ, as a dense precipitate is at once formed, owing to chemical decomposition. The urine can, however, be sufficiently cleared by thorough filtration.

Other experimenters may find some, though I think not many, objections to this test that I have not. Yet who is there that has not, in a long medical experience, seen most promising, nay, apparently unassailable discoveries, disclose vulnerable points to the uncompromising test of continued experience?

Happy is he who does not in time find the value of his discoveries in our divine art vanish like the actors in the comedy of the "Tempest," "melted into air, into thin air," leaving "not a rack behind."

Heat, although somewhat more sensitive than nitric acid, I regard as one of the most cumbrous of the important tests. It shows phosphates, which are, of course, easily dissolved by acids; but if albumin exist only in minute quantity, this is liable to be so diffused by the addition of anything as to render it invisible. Then, if the urine be too acid or too alkaline, it must be made less so, and it is sometimes very troublesome to add exactly the proper quantity of acid or alkali. There is also this very great advantage, that when the necessity exists for adding acetic acid, even if the urine have been thoroughly clarified, this acid produces a reaction due to the precipitation of anatomical elements in solution when the urine contains mucin, vaginal, or other epithelia, etc. The turbidity, though often slight, is sometimes very considerable, in either case it being impossible to employ heat with entire, if with any, satisfaction. Without any of the troublesome anatomical elements I have mentioned being present, acetic acid may produce turbidity with peptones or other proteid bodies. I have found this to be the case with numerous artificial peptones, and with urines which gave the reaction of peptones with picrid acid; the cloudiness thus produced disappearing by heat. Citric acid is preferable as an acidifying agent, since it does not give reactions with peptone, though it does with mucin, dissolved epithelia, etc. Dr. Roberts claims that heat can be made to show one part of albumin in two hundred and fifty thousand parts of urine, but I have not been able to recognize, after much experimentation, that it shows more than one part in somewhat more than one hundred thousand. I will sum up with reference to this test by saying that, though it is often a sensitive and excellent one, there are circumstances which sometimes render it unavailable, and at best it requires more work and precautions than the nitric-acid or nitric-magnesian test.

There have appeared within a year or two several articles in medical journals on what might be termed *ready methods of discovering casts.* How with the greatest facility to find casts as well as renal and pelvic epithelia, and how to find them at all, if they exist in very limited numbers, like Virgil's shipwrecked mariners,

> . . . "rari natantes in gurgite vasto,"

is certainly a matter worthy of consideration. If casts and renal epithelia be numerous, the problem solves itself; but there are many cases, especially of cirrhotic kidney, where the specific gravity of the urine is low, in which casts and renal epithelia will sometimes be temporarily absent, and when present, exist in such small numbers as to require much time and patience to determine whether they exist or not. These bodies will be often held in suspension in the light cloud of mucin which is formed in nearly all healthy, or comparatively healthy, urine, and are sometimes also prevented from forming a deposit by the bacteria which agitate the urine, so that it will often happen that in ten or twelve ounces of clear urine of low specific gravity it is very difficult to obtain much deposit. The plan I formerly pursued was, in cases where the sediment was scanty, as in polyuria, where the specific gravity was very low, to add to the urine about ten per cent. of a one-half of one per cent. solution of chromic acid, this effectually preventing decomposition or the development of organic life; then mixing, after the urine had stood a considerable time, half a drachm or so from the bottom of the beaker with a little glycerine, and letting the watery portions evaporate, the glycerine would hold everything of a sedimentary nature. This method is satisfactory enough; but a great deal of time is required. I am indebted to Méhu for a method of obtaining with facility, *en masse*, all the organic and inorganic matter in the urine, and this process I have come to consider almost indispensable. I believe I can, however, best give his method by translating his own words:

"The acetic-acid solution of the iodide of mercury and potash (Tanret's test) facilitates in an eminent degree the reunion of urinary sediments, partly by combining the anatomical elements in suspension, and partly by rendering inert the bacteria and various vibriones which prevent a deposit of anatomical elements. In many healthy or pathological urines it happens, indeed, that the sediment remains in suspension, like a cloud, in the liquid mass. In order to examine this by the microscope it becomes necessary to withdraw a portion of this cloud by means of a pipette introduced into the floating mass, this mode, however, presenting many inconveniences. To obviate this, it is only necessary to add to the urine two or three per cent. of its volume of the iodide of mercury and potash, to agitate the liquid and to let it rest. The uric acid mingles with the sediment. When the urine is albuminous or loaded with peptones, only from a drop to a few drops need be added to produce the desired effect, too large a quantity of the reagent occasioning a too voluminous deposit." ("Sur la Recherche de l'Albuminose ou Peptone," *Annales de Maladies des Organes Génito-Urinaires*, May, 1884).

As there is "no royal road to learning," so there is none to the discovery of casts and renal epithelia under certain circumstances; the method of Méhu is without objection, and concentrates in a short time into a small compass everything in the urine needing recognition. Still, even with the deposit thus concentrated, it is necessary in many cases to "put up" several drops, and employ long, laborious and patient research before being able to arrive at an assurance of the presence or absence of the suspected bodies.—*Medical Record.*

THE DIETARY OF PHTHISIS.

By J. Milner Fothergill, M.D., Edinburgh.

Probably there is no disease to which mankind is liable—not even excepting gout and diabetes—in which the dietary is more truly important than phthisis. The term means "wasting" or "consumption," and, though too much regarded at the present time as a "disease of the lungs," pulmonary complications are not essential to phthisis. It matters not whether it is prevention or cure, the dietary in phthisis is quite as important as medicines themselves.

Ten year's experience as physician to a Chest Hospital has taught me very vividly what was suspected from previous experience, viz: that the most hopeless case of phthisis is that where there is a steady emaciation going on which nothing can arrest. At last, and only at least when the end is close at hand, mischief declares itself in the lung-apices. Far less serious, though quite grave enough, is the opposite case, where a large portion of the upper part of one lung is consolidated and threatening to break down; but where the digestion and assimilation are good and the nutrition of the body is well maintained, the latter case not unfrequently does well.

We know that muscular fibre is a loose combination of albumen and fat; and as fat is a component factor in muscular histogenesis, so fatty degeneration is a histolytic change which is normal in the uterus after parturition, and the means by which involution is brought about, as well as the end of an hypertrophied heart when the nutrient arteries of the heart are occluded. Fat is necessary to the building up of healthy tissue; and in phthisis, whether threatened, existent in the early stage, or softening of the morbid area is on foot, or even when a cavity has formed, the dietary should be as rich in fat as the assimilative powers of the patient will permit, and to the utmost limit of tolerance on the part of the stomach. In the nursery, the children in whose veins lurks the taint of phthisis should be carefully brought up on milk and hominy or oatmeal porridge. And why are oats and maize chosen for the nursery ? Because they "make bone," which is the special property of oatmeal, the old Scotch folk thought. We now know only these two members of the cerelia are selected—albeit by a blind instinct—because they are the richest in fat. Wheat and barley, rice and rye, are well enough, but they lack fat. The milk contains, *i. e.*, when it has not been carefully skimmed, a certain amount of fat; but then it is not an uncommon practice for the dishonest milk-vender to take a certain amount of cream from his milk before retailing it; or even to add equal parts of skimmed milk to fresh milk. The caseine is there; the milk-sugar is there; the salts are there—but the fat is wanting to a great degree. Jam and treacle and honey and sugar are all well enough in the nursery in addition to plain bread and butter, porridge and puddings made of milk and some farinaceous matter. But the fat must not be forgotten, that is, not *une quantite negligiable* by any manner of means.

What is now being said about the dietary of the nursery applies to later child-life and adolescence. The bread and butter of the nursery too frequently is cut off in thick slices and the butter spread over one aspect, more or less liberally. Why should this be so? Why should "company" bread and butter alone be cut thin? Laziness is at the bottom of it. Laziness that does not take the trouble to realize that it is practically murderous. That its victims will be slowly tortured to death by a lingering disease; that all the torture, the discomfort, the disappointed hopes, the regrets of the survivors may be averted by a little consideration is a dream undreamt. No. That laziness is too ignorant, too contentedly ignorant in its own self-satisfaction to doubt the propriety of what is being done. The careless nursery maid has never read that pregnant sentence of Nathaniel Hawthorne: "The little regarded truth that the act of the passing generation is the germ which may and must produce a good or evil fruit in a far distant time." Or if she has, it has not struck her that it applies in any way to her when cutting bread and butter! Yet company bread and butter doubled is far better tolerated by the touchy little stomach than a hunk of bread which carries a solid layer of butter upon it. And very often the little mite may be thankful that the butter is there at all. A good many poor little atomies of strumous infants do not get the butter in liberal supplies. Of course the law draws a distinction betwixt willful murder and death by misadventure. Before the day when advancing knowledge could tell us of the cardinal importance of fat in the building of the tissues of delicate children the blame which attached to the laziness was venial compared with what attaching to it now is when knowledge is enlightening us, A wise and proper dietary in the nursery would have saved many a consumptive now slowly perishing, fighting a losing fight, in the Yellowstone region, the high Swiss valleys, along the coast of Florida, or in the Riviera or Egypt. The farmer always believes in the young cattle that have been liberally fed, or, in bucolic phrase, "well done to" in early calf life. As a physician who has had special opportunities of seeing phthisis, I prefer as patients those who have been judiciously reared in the nursery, when any risky phthisis is looming up. To supply fat to the growing organisms sometimes a little cunning is necessary. The child does not like even the sight of a piece of animal fat, it revolts at the mere appearance, much less ever tries to eat it. The sweet slice of fat, so toothsome and acceptable to those of stronger digestion and more capable assimilation, is repugnant to these more delicate organisms. Let that be the second fact to be borne in mind in the reformed dietary of the nursery. Fat must not be offered in visible, tangible form, except as butter. It must be hidden. The potatoes must be mashed with liberal quantities of milk and butter warmed, if cream be beyond the purse. Then finely minced fat must be liberally supplied to the suet pudding (which is all the better for having some treacle in it—just enough to give a light cinnamon-brown hue). Bread and butter pudding is an admirable nursery food. When the milk pudding is being served it is well to stir in a good lump of butter; though it must be admitted that this is detrimental to its appearance. But, surely, where is the mother who would weigh her child's existence and the appearance of a nursery pudding in the same scale? Perish the unnatural thought! Where economy is the order of the day, rice stewed with cracked bones is at once palatable and highly nutritious.

Where the assimilative powers are very feeble, then the milk pudding should be made with farina that has already made the acquaintance of heat. It is well to make it of broken biscuit. If made of equal parts of broken biscuit and ground malt, the resultant product is an ideal food, and those readers who are not prepared to take this upon trust and require something more than my unsupported word for the fact, had best forthwith try it and let the "proof of the pudding be the eating." One proviso, however, it will in prudence be advisable to put in, viz: there are some palates to which malt is distasteful; and, of course, to these the pudding is a failure. And then let another fact be borne in mind by the food-reformer presiding over the nursery, and it is this: Malt sugar is not so distinctly and powerfully sweet as is cane sugar or beet sugar (but its flavor is finer); but, on the other hand, it does not nearly so easily undergo the acetic acid fermentation. Two great matters are involved in this: (1) acidity of the stomach; and (2) dental caries. Cane sugar decomposing into acid is most favorable to the development of dental caries. The delicate children, who are likely, sooner or later, to die of phthisis in some of its forms, are prone to bad teeth. The imperfect dentine soon is eaten away. And bad teeth interfere with mastication, and so are a fertile source of indigestion; while phthisis is a malady of imperfect nutrition.

Where only small meals are or can be taken at once little interludes are desirable. They should not consist of ordinary sweets made of common cane sugar, but rather of a draught of milk sweetened by malt-extract, a dry malt preparation, or the homely treacle. What unconscious genius introduced treacle into the nursery dietary? Male or female, no trace remains; and yet that individual has been the savior of many a little mite. Treacle has rather sank in public estimation of late years. It is cheap, and therefore of doubtful reputation. It is certainly rather a troublesome thing to handle; and, as our delightful friend, Oliver Wendell Holmes, says, it is not very easy to pour the last of the contents out of a jug—when the contents are treacle. But granting all this, treacle has its good qualities. As said before, it is a capital addition to a suet pudding. Treacle and butter in the centre of a plate of porridge have their attractions. Yes, and their memories, too, gentle reader! Then, in combination with butter, it makes toffee. A marvelous concentrated food is toffee, and an extra ration of toffee in cold weather is an excellent practice. As simple body-fuel to keep up the lamp of life, toffee is an excellent food. Rations of toffee are far more acceptable than spoons full of cod-liver oil. Sometime ago, when on the committee of the Westmoreland Society's School, I put this view forward and the experiment of toffee in cold weather was tried and found to work capitally, the health of the children being most satisfactory; while, it is almost needless to say, the children approved of it. When toffee is suggested for a fastidious child which loathes fat and dislikes cod-liver oil, a derisive smile breaks over the countenance of the mother. It is ignorance sneering at knowledge! Knowledge can afford it. But, prejudice and ignorance to the contrary, notwithstanding, toffee is an admirable combination and has done yeoman service to many a delicate child, as my hospital experience can testify.

When fish is eaten it should be with real melted butter, and not the mixture of butter and paste usually substituted by the cook for the genuine article, while oysters should be eaten as "Little Pigs in Blankets," where the oyster is enclosed in a thin slice of fat bacon.

Then as to fat itself. Next to cod-liver oil in digestibility comes the liquid fat of bacon. This can be readily taken by any child if bread-crumbs are mixed with it. Or the child will often take it as it is in the liquid state. The way in which potatoes are served in Devonshire to breakfast is an excellent measure for supplying fat to the organism in a very palatable form. The potatoes having been boiled are placed in the frying-pan along with a liberal supply of bacon fat. They are then chopped small while heating, and kept in the pan till the outside is browned. Such a fatty dish is admirable, and when accompanied by a draught of milk forms a typical breakfast for a growing child of strumous tendencies. If it be thought desirable to add more tissue-forming material, it is easy to boil an egg lightly and empty it over the potatoes on the plate when served at table. Mashed potatoes are good with an egg over them. Pork and hominy as prepared in the United States, and extensively eaten, also constitute a desirable form of food.

If such foods constitute excellent breakfast dishes, some modifications are desirable for dinner. The rule of the nursery ought to be rigidly followed, viz: pudding first and meat after. The saliva then has time to act upon the starch, and thus a large quantity of the farinaceous material having been rendered soluble, passes out of the stomach, and so leaves it comparatively unembarrassed to act upon the albuminous elements supplied by the meat. This is physiological feeding. Our present eating customs distinctly traverse Nature's processes. The stomach is filled with meat, and then, when its acidity is pronounced, the farinaceous matter is introduced. The acidity of the stomach instantly arrests the conversion of starch by the saliva, and a load of unconverted starch is left to embarrass gastric digestion. By giving the farinaceous matter first the saliva has time to act upon the starch in the mouth (children should be taught to eat slowly and not to bolt their food), in the gullet and the stomach, before it becomes very distinctly acid. Then should follow some meat, as a slice from the joint. How desirable it would be if that slice might have, as a part of it, a piece of nice, sweet fat with it. But, unfortunately, this is too often impossible. Some good mashed potatoes, or carrots boiled and broken up with butter, or cauliflower, using just the white, should be added. As the child grows older its taste for vegetables will develop; and many vegetables can be made good and toothsome with butter, if sufficient care be given to their preparation.

Then should follow some stewed fruit and cream. And of this there could be a variety. Gooseberry-fool is good. Whipped cream is excellent. Cream moulds are suitable food. When adolescence is reached, then the biscuit or cracker, with butter and a nip of cheese, is relished. Cheese dishes are not, as a rule, much relished by the youthful palate; but adolescence brings with it other tastes. Hot sardines, or herrings' roe, or millet on buttered toast, as a tasty relish some might prefer to biscuit and cheese.

The greatest evidence of the value of fat in the food of the phthisical is furnished by the universal confidence placed in cod-liver oil as a curative agent in the treatment of consumption. Probably no dietetic remedy has made its way so fast into favor, and retained its hold upon the public mind, as well as upon that of the medical profession. Its introduction into regular and general use is due to the late Prof. J. Hughes Bennett, of Edinburgh, who, if not given to faith in drugs as a rule, certainly added a very important member to the therapeutic group. Yet cod-liver oil is not the best form of fat. Far from it! In what, then, lies its superiority? In the fact that it is the most easily assimilable of all the fats, and can be taken very frequently when no other fat can. When the sweet slice of fat is loathed the nauseous, fishy oil will be taken by a fastidious and dainty child; and not only that, but relished. And cod-liver oil has undoubtedly snatched many a phthisical sufferer from a yawning grave. Granting all that, cod-liver oil is merely the most digestible, and, perhaps, at the same time, the most nauseous form of fat—at least of those ordinarily used as food, probably the whale blubber of the Esquimau is more offensive.

Then come "fat emulsions." The digestion of fat is merely its high subdivision into particles so minute that they can enter the mouths of the lacteals in the intestinal villi. Cod-liver oil passes through the intestines, and is voided unchanged in many instances, and consequently does the taker no good. Nature supplies an oil emulsion in milk, and this largely explains the excellent effects of milk in cases of constitutional delicacy. Cream can also be largely used where it is desirable to introduce fat into the system. It goes capitally with stewed fruit. Where fat in the stomach offends it, as is the case with many dyspeptics—and a phthisical dyspeptic is truly and indeed "a handful" for physician, nurse and cook—then it must be given when the digestive act is well nigh complete, *i. e.*, from an hour and a half to two hours after a suitable meal. Cream can readily be taken with a little liquor, as Maraschino or Chartreuse; the liquor causing it to sit comfortably on the stomach. Another excellent plan which might be widely adopted with advantage, is to place a couple to tablespoonfuls of fresh cream in a tumbler and fill up with aerated water. This is a drink fit for one of the Muses or the Graces, if threatened with phthisis. Such fat emulsions are far more palatable than any of the prepared emulsions of cod-liver oil, no matter how made. But then the cod-liver oil emulsion has its advantages of ready assimilation. When the natural emulsion cannot be digested, then the cod-liver oil emulsion comes to the rescue. The emulsion of cod-liver oil with malt-extract has been found of immense advantage in numerous cases.

As to the different dietetic cures of phthisis, the most remarkable is "the koumiss cure." This is fermented mares' milk. But then it is only really of use on the arid steppes of Asia. Dr. Carrick, of St. Petersburg, had some Kirghis mares over in England a couple of years ago to illustrate the plan. But he told me it was utterly and absolutely useless in this country. The humid air of England did not produce that thirst essential to the drinking of a sufficiency of koumiss. On the steppes fifteen or sixteen large quart bottles could be comfortably taken in a day by a delicate person. Unless, then, the patient try the koumiss cure under proper circumstances, it is probably the wisest plan to let it alone.

Finally, my experience leads me to express the following opinion, deliberately with a full consciousness of the gravity of the subject—if persons born with a phthisical tendency were properly fed, with a full knowledge of what was good and desirable for them from the first day of their existence onwards and upwards; as soon as they were of years and intelligence to comprehend to have explained to them how they carry their life in their own hands; how, too, very often, their food inclinations are not in harmony with their tissue-wants, and must be struggled with; if this were done we should be spared a very considerable proportion of our cases of pulmonary phthisis—one of the saddest of maladies to which frail humanity is subject.—*Journal of Reconstructives.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., " }

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THE LATE SESSION OF THE NORTH CAROLINA MEDICAL SOCIETY.

The Journal again congratulates the North Carolina Medical Society after the adjournment of another successful session. The increasing roll of the organization has brought into the membership a determination to make these meetings a gathering of doctors who have assembled with the single purpose of mutual improvement. And this laudable object has been persistently, patiently followed, with an earnestness that impresses not only the visitors whom we have had the pleasure to welcome in our midst, but also the older members, who have watched with pride and affection the growth of the Society year by year. It is no reflection upon the men who have made the meetings in past years to say that there is a change for the better, for this is observable to any one; nor is such a conclusion construable into any reflection upon the former days of the Society. We hold in respect and reverence the seniors of the Society, to whom we owe not only the origin and perpetuation of our Society, but its Board of Examiners and Board of Health, for it is the outcome of the former of the Boards that has done for the State organization what no amount of personal influence and endeavor could have secured. We take it as the corner-stone of the work of the Board of Examiners, that their sole purpose has been to prevent incompetent men from entering into and disgracing the good name of the regular profession in North Carolina. Having its beginning, as all such revolutions, or we had better say reforms, do, with the enthusiastic support of a few zealous men and the weak praise of the timorous, and the criticisms and condemnations of the big army of skeptics, it has filled the role of all such movements, in that it has gone steadily onward to its present high standard, alike the pride of the profession in this State, and the pattern of corresponding reforms in neighboring commonwealths. Finding the avenue to recognition among the most respectable men of our ranks guarded by these sentinels, the young men, upon assuming the responsibilities of the practice of medicine, have very generally approached the guard line, and sought to establish the right to enter into the hosts by giving evidence of the proficiency in, and knowledge of, the truths of their chosen calling, which constitute the passwords entitling them to enter in and enjoy the interchange of thoughts and observations that make the Society so valuable to us all. It is not without our knowledge that apparent hardships have attended the attempts of some of the candidates who have sought the license of the Board, and that in the denial of this license they have felt themselves much aggrieved. We feel, however, that when these young gentlemen have carefully considered the questions that have been put to them to test their learning and standing as physicians, they will see that no injustice has been done them—if, failing to come up to the standard of the Examiners, which others have reached, they have been denied the right to practice medicine and surgery for fee or reward. The blame in this matter rests not upon the unsuccessful graduate, who believes that, being in possession of a college diploma, he is already entitled to the license which the statutes of North Carolina has empowered the Board of Examiners to give, but his failure and the responsibility for it, ought to be put, where it belongs, upon such colleges as graduate men who are not sufficiently posted as to give evidence of having mastered the principles of medicine, when tested by men chosen from the ranks of the busy and successful practitioners, among whom these applicants intend to settle, and with whom they propose to compete for the honors and emoluments arising out of the practice of medicine. There is no doubt that the laity, for whose protection this license-law was enacted, are in accord with the intents and purposes of the statute, and year by year, as the Society successively enjoys the increment to its membership from the licentiates of the Board, these gentlemen will join us, their seniors, in declaring that the interest and welfare of the people among whom they live and labor, as well as those of their profession, will be best served by the rigid examinations of applicants for license to begin professional life, and these new members will heartily aid in the efforts that have been made to protect the interests of the public and the profession. They will deem it a privilege to have been enrolled upon the books of the Examiners and the list of the Society as worthy of the confidence and esteem of their fellow-citizens.

The Board of Health has not received the support of the physicians at large which it deserves, nor has a just appreciation of the self-sacrificing labors of the members of the Board been shown by the State. They do not ask for increased appropriations to be expended upon themselves in the way of salaries and fees, but for the furtherance of the sanitary work they have instituted. This work has been prosecuted with wonderful economy, and much good has been done. We commend the idea to every reader of the JOURNAL in the State, that he may make it his business to see that his representative in the next General Assembly shall be properly posted upon the importance of this work, and seek to gain the support of all honest and intelligent men for the promotion of the further aid to the health organization from the State. We call the attention of such of the members as were deprived of the benefit of hearing the paper of Prof. Simmons, of Wake Forest College, on "Illuminating Oils," to the importance of some legislation prohibiting the sale of dangerous oils in the State. The importance is too great to be overlooked, and the statements of the paper are too clear to be misunderstood or neglected.

We congratulate our late President, Dr. Bahnson, on his successful administration and upon his Message, which contains many practical suggestions for the good of the Society.

The presence of distinguished and affable gentlemen from other States added very greatly to the interest and instructiveness of the session. We wish, however, to remind the members that the participation of these gentlemen in the discussions, that are the truly valuable part of the meetings, need not serve to repress them. There is no body of medical men in this country who can so well afford to tell of their labors as the members of the North Carolina Medical Society. If there was one feature more prominent than another in the remarks made by our visitors, it was the exceedingly plain and practical character of all they said—a simplicity begotten of knowledge and confidence in the truth of their statements, and a result that has had its effect upon our own physicians, but which their modesty too often forbids them to give to the meetings of the Society.

The JOURNAL is sensible of the compliment which it has received at the hands of the Society, and if earnest labor for all that makes our profession worthy of the admiration and trust of men, an aim that has always been ours, has merited the gratifying expressions of the Society, then we have earned a part of the reward for which we labor. It is not out of place, however, to say that we desire to know that our subscription list includes every reputable physician in the State, and that we can so command the esteem of these gentlemen as to procure for our pages the work of their pens.

Let us all prepare, then, for the year's work, and have its record faithfully set forth at Fayetteville in 1888.

DR. HENRY LEFFMANN, Editor of *The Polyclinic* (P. O. Box 791, Philadelphia), desires to obtain results of the new treatment of Pulmonary Consumption and Phthisis by gaseous enemata, *for publication in The Polyclinic.* The correct therapeutic value of this method can only be arrived at by the collection of statistics, and he therefore requests any one who has administered the gas to communicate the result to him, the formula used, and any special information that may be useful.

REVIEWS AND BOOK NOTICES.

MEDICAL ELECTRICITY: A Practical Treatise on the Application of Electricity to Medicine and Surgery. By ROBERTS BARTHOLOW, AM., M.D., LL.D. Third Edition; Enlarged and Improved, with One Hundred and Ten Illustrations. Philadelphia: Lea Brothers & Co. 1887.

The teaching of medical electricity in the United States is far in advance of the practice. Its application is largely confined to consulting physicians in the larger cities. Now and then we find physicians in general practice who rely upon this therapeutic means and use it independently; but for the most part the last named class of practitioners is cut off from its employment for the reason that there are so few satisfactory electrical instruments for general purposes. As matters stand now, unless the physician has considerable knowledge of the physics of electricity, his apparatus gets out of order, and if he cannot mend his own machine, he must stop everything and send it off to have it repaired. This, of course only applies to portable electrical batteries, and these are in use by considerably the greater proportion of physicians. This, however, has nothing to do with the literature of medical electricity, for that now abounds with practical books which are made available to the whole profession, and among them none has taken a higher stand than that of the volume before us. The whole of Part I. is devoted to the physics of electricity, making plain the elements of the subject. The second part is devoted to electro-physiology; the third to electro-diagnosis; the fourth to electro-therapeutics; the fifth to electricity in surgery, and the sixth to thermo-electricity., We trust that the study of this book will bring into more popular use this therapeutic means, for, as Prof. Bartholow says: "If electricity has a real value as a remedy for disease, it is clear no physician is justified on small grounds in ignoring it, and on commercial grounds to neglect the employment of so useful an agent must be regarded as an act of exceeding unwisdom. An accumulation of clinical facts and experiences, and improvements in apparatus, have so simplified the practical adaptation of the science and art to the work of the physician, that the least qualified members of the profession may achieve a considerable measure of success in practical electrical therapeutics, though unacquainted with the niceties of electrical science." The following paragraph will show the conservatism of the author in regard to a formerly much lauded practice, viz: that of the magnet as a therapeutical agent: "No one who has looked without prejudice into the subject of the therapeutical properties of magnets can doubt it, but after many trials I must confess that I have not had results which justify me in the further use of magnetism. Owing to the nature of the subject and the subjective character of the phenomena, it is difficult to separate the effects of the magnet from the influence of the mental state. There is danger of the magnet applications degenerating into charlatanry, and hence circumspection is necessary."

The book is dedicated to the present Surgeon General of the United States Army, Brigadier General John Moore, M.D., and is beautifully printed and clearly illustrated by the well known firm of Lea Brothers.

THE PRACTITIONER'S HANDBOOK OF TREATMENT; OR, THE PRINCIPLES OF THERAPEUTICS. By J. MILNER FOTHERGILL, M.D., Physician to the City of London Hospital, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co. 1887.

Dr. Fothergill has grown in popularity in the United States during the comparatively short time he has been contributing to medical literature. He is particularly popular with American doctors, and this popularity is based upon the clear and attractive manner in which he presents every subject that he treats of; but none of his books have been received with more favor in the United States than "The Practitioner's Handbook of Treatment." It is not intended, as the author says, to be a manual of therapeutics, but he has endeavored to give a book which will "enable the student to study the works of Sidney Ringer and H. C. Wood, and to give him the broad lines upon which he must proceed in his therapeutic efforts: the basis upon which he can rear a superstructure that will embrace the minutiæ." That the book has reached a third edition in such a comparatively short time is also an evidence of its acceptability, The plan adopted by the author is first to give the physiology of each subject and then to review the pathology so far as they bear upon the treatment, and then he takes up the action of remedies, after which their practical application in prescriptions is furnished. The object of the author is not to introduce new remedies, or, in fact, to introduce new theories of the practice, but his greatest judgment has been in the practical and more rational application of well-known remedies. The volume closes with the consideration of the practical principles of public and private hygiene and dietetics, and finally with some directions about the behavior of the medical man at the bedside, part of which is a quotation from the well-known work of Austin Flint, with the permission of the latter, as the author states. Upon the whole, it is hardly necessary to say it to the large number of readers whose eyes this will catch that this is one of the very best books that the general practitioner could have on his study table, and we recommend a careful perusal of it by all those who have not yet availed themselves of it.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Vol. IV. Ich-Mil. Edited by ALBERT H. BUCK, M.D. William Wood & Co., 56 LaFayette Place, N. Y.

Ninety-eight authors contribute to this ponderous volume, and if we do not note among the names of the writers the majority of those whom we have learned to accept as authorities in medicine, we are inclined to the opinion that, as far as a goodly number of them is concerned, their contributions will some day place them in this list of worthies. The article on "Inflammation" is signed by W. T. Councilman, and while it only covers sixteen pages, it brings the subject up to the very latest day, and, as compared with the articles on the same subject, e. g., "Holmes' Surgery" (English edition), it shows what wonderful advancement and additions have been made to our knowledge of what we always consider a well-known subject; and we suppose if another edition of this volume should be called for in a few years, this is one of the articles which will have to be rewritten, if any, so great is the growth of pathology. The article on "Insanity," by Edward N. Brush, Theodore H. Kellogg and others, is nearly an hundred pages long, and is illustrated by portraits of different types of mental and other nervous diseases, including cretinism. Intestinal obstruction, intestinal diseases and the surgery of the intestines receive prominent treatment at the hands of two or three contributors, and so does the kidney, and is fully illustrated with a dozen or more chromolithographs of carcinoma and sarcoma. Labor also is treated at length, and is fully illustrated. The study of micro-organisms is elaborately illustrated, as such an interesting and comparatively new subject well deserves. It would be impossible to review such a work, owing to the multitude of subjects it covers, and, although we have kept this volume on hand for a long time, in order to do justice to its valuable contents, we can only say, in general terms, that it is, as the former volumes proved to be, a most valuable reference book for the profession, and is establishing an enduring fame for itself.

ATHOTHIS—A SATIRE ON MODERN MEDICINE. By THOS. C. MINOR. Cincinnati: Robert Clarke & Co. 1887.

The first chapter introduces Dr. Paulus Androcydes and his pet cat Anubis. Dr. Androcydes is a student of Egyptian hieroglyphics, and the scene introduces him at the task of deciphering from a learned papyrus, while his Angola cat was enjoying the heat of a glowing grate fire. On all hands are evidences that the learned doctor is fond of Egyptian learning and mysteries. On every side are emblems of Egyptian lore and symbols. In the corner of the room is a large sarcophagus containing a mummy. A low table is covered with retorts and test-tubes and chemicals in bottles and human bones and a grinning skull and specimens in alcohol, all indicating the laboratory work to which the learned man betook himself. Oddest of all these odd things is our Dr. Paulus Androcydes—physician, chemist, Egyptologist, delver in occult sciences and investigator of all eastern mysteries. Androcydes was wrapt in study upon the mysteries of old Chaldean Egypt found in the papyrus, and especially that part of it concerning the performance of miracles in medical practice. He is represented as an extreme skeptic, yet, in the perusal of this papyrus, he had received an impression very profound and falls into a cogitation upon transmigration. He finally lays down his papyrus and indulges in a low, disdainful, gurgling laugh. At this time his cat gave a blood-curdling scream of anger. The physician springs to his feet in astonishment because he finds his Angola cat with every hair on end, his tail uplifted and swollen to twice its natural size, his eyes like those of a raging demon, emitting phosphorescent flashes of light, intelligent gleams of indignant protest. He caresses his cat apologetically, which seems to pacify him. To make a long story short, the Doctor determines on one of the miracles of the Egyptian Magi, incinerates his cat in the convenient fire of his grate, recovers the ashes, and, according to the directions of his Egyptian teacher, places them on the line of the incision marked on the mummy as the place of abdominal evisceration, and ending the operation with the words, "I command thee to walk." Life comes into the mummy, and he rises before the bewildered Doctor with a motion almost imperceptible to human sight, "a man, the very embodiment of physical beauty and strength." The resurrected Athothis proves to be the author of the papyrus. His soul having been liberated from its temporary lodgement in the cat, he miraculously spiritualizes the body of Dr. Androcydes, and in this spiritualized condition the pair start out to make observations on what they see. So supernatural are these endowments that they visit the bedside of sick persons, and, all unseen by physicians and patients, they learn what is going on; and not only this, they have such acute spiritual discernment that they are enabled to view the whole human body as a transparent medium, thus witnessing all the functions as they actually are performed, and are enabled to criticise both the diagnosis and treatment of doctors whom they wish to inspect. With such a miraculous beginning, it is easy enough to follow the author through a series of adventures and acute criticisms, which, taken altogether, make a most curious and ludicrous satire upon the material things known to the profession. We will not anticipate the reader in his pleasure in reading this very remarkable production, but only desire to whet his appetite for what we trust will prove to him the book of the season—one that he can take along and read in his dry, dusty rounds, or take to the seaside with him and enjoy in a cool, swinging hammock.

Satires on the medical profession generally are not much relished by the profession, because most of them are too coarse, and particularly does the cheap wit of newspaper men and unsuccessful doctors, so frequently indulged in, go the rounds of newspaper and medical journal until one gets surfeited. But when the profession finds a good thing the driest of them are the last persons to find fault, and we may say they are the first to enjoy pungent wit, even at their own expense.

And now we have only introduced Dr. Minor's book to our readers, and expect to hear very much more about it than we can tell before the season is over.

The book is dedicated to Dr. John S. Billings, and is well executed by the well-known publishers Robert Clarke & Co. Small octavo. Cloth. Pp. 193.

NOTES.

SAYRE'S ORTHOPEDIC SURGERY has recently been translated into French.

WE are pleased to note that the Medical and Chirurgical Faculty of Maryland elected at its last meeting for President Professor I. E. Atkinson, M.D.

FIRE HAND GRENADES (*Am. Jour. Pharm.*) are filled with mother liquor left after evaporating sea-salt. It is an impure solution of chloride of magnesium and calcium. (Sol. of Epsom salts would do as well.)

ARSENIC IN CHLOROFORM.—According to Dr. Scholvein (*Schweizerische Wochenschrift*, *Am. Jour. Pharm.* April) 10 kilograms of chloroform yielded 0.12 gram. of arseniate of ammonium and magnesium. Is this the experience of any American chemist?

ROBERT KOCH.—Parke, Davis & Co. have recently issued a very admirable portrait of the famous discoverer and savant, Dr. Koch, a copy of which reached our office some little time ago. Pharmacists who may desire to receive a copy of the same will be furnished with one free of expense by addressing the above firm at Detroit, Michigan.

THE *Maryland Medical Journal*, under the able editorial management of Dr. Thomas A. Ashley, has reached its eleventh year, with marked evidences of the ability of its leader. Dr. Ashley announces that he has secured the services of Dr. G. J. Preston to assist him in his labors, and we predict for the "*Maryland Medical*" increased success.

GELATINE-COATED PILLS.—Dr. C. C. Stockard, of Columbus, Miss., referring to a communication of Dr. Boyd concerning the insolubility of gelatine capsules, writes that he has frequently seen gelatine-coated quinine pills pass from the bowel undigested, even where there was no gastric inflammation. He has never known this to occur with freshly filled gelatine capsules, nor with gelatine-coated pills, except those of quinine. The latter he regards as so unreliable that he never prescribes them.—*Medical Record.*

IF PHARMACY is being taught all along the line as well as it is being done at the Philadelphia College of Pharmacy and at Ann Arbor, it will not be long before we will see the places of youthful uneducated boys now in the business in so many otherwise good stores supplanted by educated men who will be a help to the doctor, rather than a standing menace.

ADULTERATION OF ANISEED WITH SEED OF CONIUM.—Mr. C. L. Lochman, of Bethlehem, Pa., calls attention to the fact (*American Druggist*, May) that on attempting to grow anise from Italian seed he got a crop of *Conium maculatum.* Danger from this adulteration may be quite remote in the practice of most physicians, but as the majority of our doctors are their own druggists such a lesson should teach them to enquire into the purity of all drugs they purchase.

GOOD FORMULA FOR BLAUD'S PILLS.—Mr. William Duncan, in a paper in the *Chemist and Druggist,* gives the formula suggested by W. Martindale in his "Extra Pharmacopœia" as the more desirable. This formula for 24 pills would be: Ferrous sulphate, 60 grains; potassic carbonate, 36 grains; sugar (better replaced by sugar of milk), 24 grains; powd. tragacanth, 4 grains. These pills contain 19 per cent. of ferrous carbonate, and when examined two months later the pills had kept shape, were desirable in appearance, and the amount of ferrous carbonate was 18.3 per cent.—*Pharmaceutical Record.*

THE NETTLE PLANTS.—There are many nettles which have the property of setting up troublesome dermathites, and it may interest the doctor to know something about their anatomy and physiology. The *Torrey Bulletin* (March) condenses the remarks of Dr. G. Haberlandt from the *Journal of the Royal Microscopical Society* on this subject. The substance which gives the stinging properties to the fluid of the glands of the common stinging nettle is not, as has been generally supposed, formic acid, which could not produce the effect in such small quantities. Dr. H. states that the irritation must be produced by a fixed substance, since the dried contents of the gland will cause the ordinary effect of a nettle sting if introduced beneath the skin. He finds always the fluid a substance which exhibits all the properties of an albuminoid. The substance which produces the inflammation is probably a compound of the nature of an unformed ferment.

Passage of Three Teaspoons through the Alimentary Canal.—A woman, with intermittent paroxysms of mania of suicidal tendency, swallowed three teaspoons. Their passage through the intestines produced symptoms of peritonitis, which rapidly passed away, and a diarrhœa that ceased upon the passage of the spoons. These were exactly applied to one another, and surrounded with indurated fecal matter which presented the form of a cylinder. —*Rivista Internationale.*

NC Med J. (o.s.) 19:333, #5, May 1887.

The University of North Carolina Catalogue (1886–'87), just received, shows 204 matriculates, the same as the preceding year. Considering the enormous failures of crops and the fact that there is no preparatory department, the number is quite satisfactory. The Faculty includes 15 teachers. There are 18 lecture rooms, 6 laboratories and museums for daily scientific work; a large general museum; a select library of 25,000 volumes; a reading-room, with 80 papers and journals, and a fine supply of maps and illustrative apparatus. The law school is flourishing.

An Opinion on the Value of the Sphygmograph.—The New York *Medical Record*, in reviewing the admirable Croomian lectures of Dr. Broadbent, recently delivered, quotes the lecturer as saying that he has not found "any practical vitality in the sphygmograph in prognosis and diagnosis." This recalls an experience of the writer with his bright new sphygmograph just from the factory. He was particularly charmed with the highly scientific appearance of his instrument, and, after demonstrating its working power, hied him off to a very intelligent lady patient to show what advancement the grand science had made in detecting disease. The patient was suffering with a functional intermission of the heart as an accompaniment of a gouty seizure, and was depressed. The handsome little instrument was applied nicely to the delicate white wrist, the spring touched the minute clock-work and whizzed away, but the record was a failure. Again and again was it applied, until, in the course of an hour, the correct pressure was adjusted, and the sphygmogram interpreted accurately enough what the finger had shown the day before—an intermission. Highly pleased with his success, and, of course, expecting a compliment upon his improved diagnostic armamentarium, he was rather chilled by the remark : "Very scientific and very pretty, but ordinary doctors would have made out their case, collected their thoughts and been gone in half the time."

BOOKS AND PAMPHLETS RECEIVED.

Persistent Pain after Abdominal Section. By James B. Hunter, M.D.

The New Treatment of Cataract Patients. By Julian J. Chisolm, M.D.

Practical Examples in Prescription-Writing. By Charles H. May, M.D.

Abuse of Alcoholics by the Healthy. By Stanford E. Chaillé, A.M., M.D.

Transactions of the Medical Society of Virginia. Seventeenth Session. 1886.

Baked Beans: A Serio-Humorous Medical Paper. By Ephraim Cutter, A.M., M.D.

Contributions to the Diagnosis of Yellow Fever. By Augustin M. Fernandez, M.D.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M.D.

The Antiseptic Treatment of Summer Diarrhœa. By L. Emmett Holt, A.M., M.D. Reprint from the *New York Medical Journal.*

The Doctorate Address. Delivered at the Semi Centennial Anniversary of the University of Louisville. By David W. Yandell, M.D.

Practical Observations on the Gonococcus and Boux's Method of Confirming Its Identity. By Charles W. Allen, M.D. Reprint from the *Journal of Cutaneous and General Urinary Diseases.*.

The Past, Present and Future Treatment of Homœopathy, Electicism and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience. By Henry I. Bowditch, A.M., M.D.

Annual Address, delivered before the American Academy of Medicine October 12, 1886. By R. S. Sutton, A.M., M.D.

Ninth Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital, No 1007 East Baltimore Street, Baltimore. 1886.

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapentic Applications of Electricity. By C. H. Hughes, M.D.

Annual Report of the Board of Managers of the New York State Reformatory at Elmira, for the year ending September 30, 1886.

Some Considerations Concerning Cancer of the Uterus, Especially Its Palliative Treatment in Its Later Stages. By Andrew F. Currier, M.D.

Proceedings of the National Conference of State Boards of Health at the Third Annual Meeting held at Toronto, Canada, October 4, 1886.

Proceedings and Addresses at a Sanitary Convention held at Coldwater, Michigan, September 9 and 10, 1886. Michigan State Board of Health.

Annual Address, delivered before the American Academy of Medicine, at Pittsburg, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., LL.D.

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides. By C. H. Hughes, M.D., St. Louis, Mo.

A Novel System of Operating for the Correction of the Deflected Septum by Means of an Electric Motor, Nasal Drills and an Original Spray-Producing Device, with Illustrative Cases. By William Chapman Jarvis, M.D.

Official List of Medical Officers of the United States Marine Hospital Service, including Acting Assistant Surgeons and Hospital Stewards: also, Lists of United States Marine Hospitals and Quarantine Stations. January 1, 1887.

READING NOTICES.

Original Memoir—Dr. Malacrida, in Gazette Degli Ospitale, Milan, 1886—Utility of Carnick's Soluble Food.—In July last there came under my care a lady suffering from parenchymatous rheumatic nephritis. The attack was so acute as to lead to the suspicion of Variola, shivering, frequent and terrible lumbar pains, vomiting, but on the third day occurred an œdema, which became general, the urine being examined, removed every doubt as to the diagnosis. In quantity half a litre in twenty-four hours; reaction acid; specific gravity 10.35; reddish brown color on account of the presence of blood. Tested for albumen it became a solid brown mass, almost black. The microscope revealed a great quantity of renal epithelium, numerous blood corpuscles, both red and white, etc. The patient was threatened with pulmonary œdema, an obstinate vomiting of mucous and acid rendered impossible the administration of any remedy to overcome the constipation afflicting the patient from the first, and which prevented any possibility, by the intestinal tract, of compensating for the insufficiency of alimentation. Perspiration was induced, cups were applied to the lumbar region, attempts were made to administer milk; first pure, then deprived of butter by beating, and seasoned with salt or with Carlsbad water, but all were abandoned on account of distressing gastric symptoms being aggravated in the most extraordinary manner. Not knowing where to turn for a dietetic and curative method, it occurred to me that when sick infants were afflicted with gastro-enteritis of the gravest nature, I had always used the Carnick Soluble Food with the greatest success. I therefore resolved to try it in this instance. I had a teaspoonful boiled a few moments in a glass of water and gave it hot to my patient, who supported it exceedingly well. I repeated the portion after a few hours; in short, nourished with this food alone and treated with a few subcutaneous injections of hydrochlorate of pilo-carpine, the gastric intolerance diminished, the tongue became clean, the breath less offensive, the quantity of albumen contained in the urine being less, mophologic elements disappeared, phosphites and chlorides reappeared, and the patient made good recovery, not abandoning, however, for two weeks more, Soluble Food (*la sua farina alimentare*). I also attempted the administration of this food in two cases of ulcer of the stomach, but with less happy results, though the tolerance was better than for milk, especially with the addition of a strong infusion of coca or a few centigrammes of hydrochlorate of cocaine. Another female patient, afflicted with carcinoma of the pylorus, who tolerated neither milk nor broth, nor extract of meat, nor peptones, supported very well the Soluble Food cooked in water, to which was added a little diluted spirit of cider. In conclusion, I believe that of all the special foods which are more or less highly praised and introduced to our notice, this Carnick Food merits the preference.

NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 6. Wilmington, June, 1887. Vol. 19.

ORIGINAL COMMUNICATIONS.

ANNUAL MESSAGE.

By Henry T. Bahnson, M.D., President.

Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.

Gentlemen of the Medical Society of North Carolina:

To-day we celebrate the thirty-eighth anniversary of our organization, as we assemble to hold our Thirty-fourth Annual Meeting. Temporarily interrupted by the disturbing influences of war, our membership has steadily increased, until the meagre list of a dozen names, now contains a full five hundred. The Medical Society of North Carolina has outlived the full measure of years of a generation. In that time it has achieved an honorable distinction among similar organizations. Its influence for good has been experienced by every community throughout the extended area of our State, and its fame has reached far beyond our own borders. It has maintained the good-will and confidence of its friends, and effectually silenced the calumnies of its enemies. It has labored in behalf of the poor and the suffering, until every jail and almshouse has been benefited by the ameliorating influence and supervision of its Board of Health, while its license law has banished quackery from the State. Have we not, then, just cause to congratulate ourselves upon this happy occasion ?

We meet to exchange greetings, and, throwing off for a day or two, our toilsome harness, give ourselves over to a *quasi* recreation, which imbues us with new courage and fresh aspirations to overcome the difficulties of our life's work.

This is a reunion, when friend grasps the hand of friend, who, separated by hundreds of miles, but for this annual convocation would scarcely meet this side the grave.

I said advisedly a *qaasi* recreation. Delightful as are the social features of these occasions, our annual meetings are more than friendly reunions. We come together to exchange ideas, to learn new and emphasize old lessons in the duties of our profession and the art of healing. Each of us is a teacher—all of us are willing students. Individual experiences are related, items of professional information offered, essays and clinical reports presented, and by discussion the chaff is separated from the wheat, which we carefully gather to carry with us to our distant homes. We leave these meetings strengthened and refreshed—our minds stored with new and useful knowledge, our hearts stimulated to renewed exertion, our hopes quickened, our faith confirmed, our ambition excited to achieve greater successes in our noble calling.

Did time allow, it would be pleasant and profitable as well, to refer to the past of our Society, and, recounting its trials overcome, and its obstacles surmounted, we could learn much of counsel and encouragement from its history. Its roll contains the names of a host of earnest workers, many of whom, alas, have gone to their eternal rest, and many, alas, who, by their presence here to-day, show their unabated interest in the creation of their labors. For it may truly be said of our Society that it was the work of no one man; to single out those who more than others were instrumental in its organization and maintenance, would be a hopeless task. Each in his degree, and according to his ability zealously aided the same. The North Carolina Medical Society, as it exists to-day, is the culmination of unselfish individual effort, inspired and united by the affection borne for it by its members. If we sincerely desire to promote the cause, in the interests of which we are here assembled, we must emulate the example of our predecessors, in laying aside every selfish consideration, and with singleness of purpose combine earnest individual effort in our work as a Society. Let each one ask himself, what have I done, and what can I do, to deserve the honor of belonging to such a nobly built and grandly successful organization?

Look back upon the year that has passed. Has your conduct been always in accord with the spirit of the Code of Ethics, that grand bulwark and safeguard of professional relationship, which you recognize as part of the Constitution of this Society? Have you invariably, in thought, and word, and deed, conformed to the Golden Rule, of which the Code of Ethics is only an amplification, and regarded a brother physician's interests as you would have him regard yours under similar circumstances?

Again, what have you done to promote the interests of the Society since its last meeting? What lessons have you learned to impart to your fellow-members? What clinical observations have you elaborated to contribute to the general fund of knowledge? What time and thought and labor have you devoted to the cause of medicine in general, and your Society in particular? Has your Society no claims upon you? Does any one of you think that his obligations to it are cancelled by the payment of his admission fee and annual dues; that this is a fair return for the benefits it confers upon him? If so, I pity him; but I pity our Society more. Of such material it could never have been formed; with such material it cannot long be maintained.

But, fellow-citizens, I am constrained to hope for better things from all who are here to-day. Your presence is a proof of your interest in the great and noble cause of which our Society is the exponent—the increase and dissemination of medical knowledge and for the alleviation of human suffering. Inspired by such an ambition, I bid you welcome, and pray that the blessings of an overruling Providence may attend our deliberations.

Our Society is responsible for the organization and maintenance of two important State institutions, viz: the Board of Medical Examiners and the Board of Health. Allow me briefly to refer to their work for the past year.

The Board of Medical Examiners remained in session for one week at New Bern, and during that time examined 62 applicants for license. Of these 46 were granted license and 16 were either rejected or allowed to withdraw their applications. For the faithful labors of the gentlemen composing this Board the people of North Carolina owe unstinted gratitude. We may well be proud of the grand work accomplished by this Board, and I am sure you will all agree with me in commending it for its faithful performance of a most necessary but unpleasent and thankless duty.

I wish it were possible to speak in a similar strain of congratulation of the operations of our Board of Health. In part I can truthfully do so, and take pleasure in tendering our thanks and heartfelt approval to the staff of this most important institution for their meritorious performance of the work which we have entrusted to them. A perusal of their biennial report shows that they only need our coöperation to insure a successful prosecution of their undertaking. They have accomplished a great deal, and they report a decided improvement in the workings of the county boards of health. But when we notice that hardly half of the counties in the State have a board or superintendent of health, and that not nearly all of these submit a report, we must acknowledge that the State Board of Health falls short of what it should and could be.

The condition of many of our jails and poor houses is a disgrace to the communities in which they are situated, and justly merits the strictures contained in the report. Some months ago I visited a jail in one ef our most enterprising and prosperous cities. Grand hotels, spacious mercantile houses, commodious banks and costly residences indicated a wealthy community, while towering above the roofs of the loftiest buildings the steeples of numerous churches pointed towards heaven. To the casual observer there appeared a singularly happy blending of wealth and religion. In the shadow of the temple of justice was the jail building. Inside of an encircling brick wall pierced with two small windows, was an iron cage 12 feet square and 12 feet high. The cage was divided by an iron floor into two stories. Each of these was subdivided into two cells and a passage way. After my eyes had become accustomed to the dim light, I counted twenty-four human beings huddled in these confined quarters. They were clothed in rags, and a few tattered pieces of blankets and sacks constituted their bedding. Many of these poor wretches had lain there for many months, awaiting trial for petty offences. The place was reeking with filth, and the stench was beyond description. Every sanitary necessity was absent. The cage seemed literally full, but I was informed that twice as many were frequently confined in it; and, on account of its security, the jail was patronized by adjoining counties, in one of which is located the largest city of our State. Now, the county in which this jail is located has its board of commissioners, who appoints the jailor and are responsible for the health and safe-keeping of the prisoners. Grand juries, by order of the court, inspect and report upon the condition of the public buildings and their inmates—all the machinery of the law is in active operation—and yet, within the limits of an incorporated city, in sight of the hotels, the stores, the banks, the private residences, the houses of God, this foul abomination, this crime against God and man, existed and flourished.

I wish I could believe that the abuse I have feebly described stands alone in its horrible enormity. God grant our beloved State has no more such foul blots upon her escutcheon; and yet I fear this is not an isolated example. What if the law failed to correct this abuse; what if the pursuit of wealth engrossed the attention of the average citizen; what if professors and ministers of religion neglected the injunction of their Master to visit the least of these His brethren in prison, can we, the self-constituted guardians of the health and lives of our fellow-men, excuse ourselves? If we are what we profess to be, laborers in the cause of humanity—if we are actuated by the philanthropic motives which should characterize the medical profession, how can we close our eyes or restrain our tongues at these outrageous enormities? As citizens we have a right, as physicians it is our duty, to correct these evils and prevent their occurrence. We have the power. Let us hold up the hands of our Board of Health; let us aid and strengthen and encourage our county superintendents, and let us show to the world that our philanthropic professions are not "as sounding brass and tinkling cymbals."

As I said before, we, as a Society, are responsible for the existence and maintenance of the Board of Health. Only by our coöperation, as individuals, can its ends and aims be accomplished, and its claims for efficiency as a State institution be justified.

The details of the terrible calamity which nearly destroyed the principal city of an adjoining State, must still be fresh in your memories. Being called upon by several prominent members of our Society to issue an appeal for the relief of our suffering confreres in Charleston, I first addressed a personal letter to Dr. F. Peyre Porcher, enclosing a contribution. His grateful reply, written in behalf of his more destitute associates, and detailing the urgent necessities of their unfortunate condition, determined me to issue the circular letter, with whose purport you all are acquainted. The result of this appeal was the collecting and forwarding to Dr. Porcher for distribution the net sum of $215.35. As I had originated the correspondence, our Treasurer, Dr. R. L. Payne, Jr., courteously turned over to me such sums as were sent to him, and I herewith present to the Society my report of receipts and disbursements :

RECEIPTS.

1886—	September	23—	To cash (H. T. Bahnson)	$ 25 00
"	"	27	" H. E. Fries, Salem, N. C.	5 00
"	"	28	" Mrs. L. M. Fries, Salem, N. C.	5 00
"	October	1—	Dr. Eugene Grissom, Raleigh	10 00
"	"		" P. L. Murphy, Morganton	10 00
"	"		" E. M. Summerell "	5 00
"	"		" W. P. Ivey, "	2 50
"	"		" R. P. Bessent, "	1 00
"	"		Capt. Jos. Walker, "	5 00
"	"		Mr. F. M. Scroggs, "	2 50
"	"	2—	Dr. Thomas E. Anderson, Statesville	5 00
"	"	4—	" J. T. Shubrick, Winton	2 00
"	"		" S. S. Daniel, "	1 00
"	"	5—	" R. H. Lewis, Raleigh	5 00
"	"	6—	" L. J. Picot, Littleton	2 00
"	"		Mrs. Dr. Person, Franklinton	1 00
"	"		Dr. Hunter McGuire, Richmond, Va	25 00
"	"	8—	" C. M. Poole, Salisbury	5 00
"	"	9—	" James L. Nicholson, Richlands	2 00
"	"	14—	" A. J. Battle, Earpsborough	10 00
"	"		Collections at Neuse, Wake county, through Dr. T. B. Robertson	8 00
"	"		Collections by Mrs. Dr. Person and Dr. L. J. Picot,	7 00
"	"	16—	Mrs. S. C. Robeson, widow of Dr. R. R. Robeson, Kyle's Landing	5 00
"	"	18—	Dr. Thomas F. Wood, Wilmington	10 00
"	"		" W. E. Powell, Castoria	3 00
"	"		" J. F. Harrell, Whiteville	5 00
"			Drs. R. L. Payne, Sr., and Jr., Lexington	3 00
"	"		Collected by Dr. D. M. Prince, Laurinburg	30 35
"	November	3—	Dr. G. T. Sikes, Grissom	2 00
"	"	4—	" J. B. Gaither, Mill Bridge	3 00
"	"		" E. Rose Dorsett, Salisbury	10 00
"	"		" W. J. H. Bellamy, Wilmington	2 00
1887—	January	4—	" J. M. Boy Ette, Little River Academy	5 00
Total				$222 35

DISBURSEMENTS.

1886—	September	23—	By cash to Dr. Porcher	$ 25 00
“	“	28—	By postage stamps	5 00
“	“		Printing circular	2 00
“	October	2—	Cash to Dr. Porcher	44 00
“	“	7—	“ “	36 00
“	“	9—	“ “	7 00
“	“	14—	“ “	25 00
“	“	19—	“ “	26 00
“	“	23—	“ “	30 35
“	November	3—	“ “	2 00
“	“	15—	“ “	3 00
“	“		“ “	12 00
1887—	January	5—	“ “	5 00
	Total			$222 35

The contributions of Drs. E. Rose Dorsett and W. J. H. Bellamy did not pass through my hands. Dr. J. M. Boy Ette desired his donation to be devoted to the Charleston Medical College. Dr. Porcher's letter of acknowledgment and the accompanying receipt make further comment unnecessary:

"CHARLESTON, S. C., November 29, 1886.

"*Dr. H. T. Bahnson, President of the North Carolina Medical Society:*

"DEAR DOCTOR:—Having received through and from you and others several contributions made by the members of your State Medical Society and others, as follows: Through Dr. Bahnson, President, $198.35; through Dr. Rose Dorsett, Salisbury, $10.00; Dr. W. J. H. Bellamy, through Dr. R. L. Payne, $2.00—($210.35)—I desire to make a special acknowledgment for the same, and thank yourself and the several contributors for their generous assistance. We know the difficulty which the medical profession, as a class, meets with in their efforts to support their own families, and we can therefore more readily and fully appreciate the self-denial exercised by many in your State in their generous and sympathetic efforts to relieve those of their brethren who have met with disaster here.

"I have made acknowledgments in the *News and Courier* of this city of all these contributions, and through whom they were received, in order that our citizens should be made acquainted, as far as possible, with the widespread sympathy which the misfortune from which they have suffered has excited among the physicians of North Carolina.

"We have to thank you and others (men and women) for the zeal and interest you have exhibited, and for the trouble you have taken in our behalf.

"I remain, with great respect and esteem, yours, sincerely,

"F. Peyre Porcher, M.D."

"Charleston, January 11, 1887.

"I received from Prof. F. P. Porcher five dollars, contribution from J. Middleton Boy Ette, M.D., for repair of Medical College of the State of South Carolina, forwarded by Dr. H. T. Bahnson, of Salem, N. C. J. Ford Prioleau, M.D., Dean."

Following the example of those who have previously held the office to which your kind partiality has elevated me, I have this opportunity to present some suggestions for your consideration.

The increase in our membership, as I before remarked, has been steady, and our list now embraces more than one-third of the reputable practitioners of medicine in the State. The increased attendance at our meetings is likewise very gratifying. But we desire to have all the physicians in North Carolina identified with our Society. That the interests of the profession as well as of the Society would be promoted by such a consummation, needs no argument. Every medical man, whether in or out of the Society, must be convinced of the advantage of merging individual interests and influence into one common cause. Repeated efforts have been made to attain this end. Amongst other measures proposed is the one suggested by my immediate predecessor in the presidential chair, and which formed an important part of our original plan of organization, viz: the institution of county medical societies auxiliary to, and under the general supervision of, the parent Society. Now, that our numbers have so largely increased, and we have members in practically every county in the State, it is reasonable to expect more in this direction than was accomplished in the past. While I sincerely hope this measure may be most zealously prosecuted, and meet with abundant success, I confess that I am not content with the associate membership conferred by the county Society. What we want is a closer connection—a *bona fide* working membership. I believe that we make admission into our Society too difficult. As I understand the Constitution no physician can join unless he is present at the meeting, his application is approved by the Committee on Credentials, he signs the Constitution and pays the initiation fee of five dollars. Surely, with the restrictions afforded by our Board of Medical Examiners and our Committee on Credentials, we need not insist upon personal attendance. Many desirable associates, who would make excellent members, are, for one reason or another, prevented from coming to our meetings. If their application, endorsed by two members in good standing, could be received and acted upon by the Society, and a proxy be allowed to sign their names to the Constitution, I am convinced that all necessary safeguards would have been thrown about admissions, and we could secure the moral support of a largely increased membership.

As a means for increasing our membership, we have never utilized the opportunities afforded by these annual meetings. If we will, we can make them a grand school of medical instruction, which would attract all who have a desire to increase their professional knowledge and skill.

The best part of medicine is not yet written. Nothing is so valuable as carefully digested clinical reports. The humblest country physician meets with experiences, and is confronted by emergencies, hardly hinted at in the text books. In this practical age theories which have claimed the unhesitating faith of generations, are controverted almost daily by the logic of facts. Let it be remembered that it was a country physician who led the van in the triumphal march of abdominal surgery. The country physician has one great advantage over his busy city confrere. In his lonely rides he has time to reflect upon his experiences. Some of the most interesting and instructive papers presented to this Society have been the result of the pains-taking studies of these very men.

It is not always, or even generally, the grave emergency or the unique experience, which is worth reporting. The simplest case of every day occurrence may convey a lesson which is of inestimable value. There is not one among you here to-day that does not carry in his remembrance clinical observations which would afford valuable instruction and assistance to his medical brethren. If every member present, stimulated by a sense of duty, would add his mite to the general fund the reproach that these meetings are lacking in interest would be effectually refuted.

The members of our Society are not wanting in education or skill in their profession. Contributions from their pens are sought after by the leading medical publications of the country, and yet very few papers are presented at the meetings, the range of subjects for discussion is limited, and only a small number take part in these discussions. This may be due largely to a lack of interest, or perhaps to a diffidence on the part of members, but I am of the opinion that this is not the main cause. The physician who feels that he has valuable information to impart, more especially if this information is the result of much labor and thought, naturally desires that the whole medical profession may have the benefit of such information, and hesitates to present it to so limited a number as are reached by the publications of the Society. He knows he is entitled to a larger audience, and who can blame him if he seeks it? I venture to say that, if all the articles written by members of this Society which have appeared in the various medical journals in the past twelve months were collected into our "Transactions" of this meeting, we would have a publication of which any medical society might justly be proud. Probably 550 copies of our "Transactions" are printed, and their circulation is confined practically to the membership of our Society. The necessity for a wider publicity, as an incentive to the preparation of papers for their annual meeting, was early recognized by our sister Society in Virginia, and, with all deference to the talent and zeal of her members, I am confident that the publication of their "Transactions" in connection with a journal whose circulation and exchange list brought them to the notice of every reputable medical journal and prominent medical men in this country and not a few beyond the limits of the United States, was the lever by which they have elevated their Society into such meritorious prominence. In addition to the benefits accruing to the Virginia Medical Society, this action has helped to advance the *Virginia Medical Monthly* to the front of medical literature.

In adopting the NORTH CAROLINA MEDICAL JOURNAL, under its present management, as the organ of our Society, we could similarly benefit ourselves, and at the same time extend a helping hand to our worthy brother, whose absence from our meeting, both last year and this year, is due to the fact that he lies, stricken and helpless, upon a bed of sickness. For many years he has been our wise and prudent counsellor, our faithful and self-sacrificing, our voluntary servant—a standard-bearer of the medical profession in North Carolina. Actuated by purely patriotic and wholly unselfish motives, undeterred by apparently insurmountable obstacles, undismayed by the lack of encouragement and even the positive opposition of his friends, he has accomplished his self-appointed task, and we reap the benefit of his labors. His days for active professional work are cut short in his prime, but his heart is with us to-day, his brain and his pen still labor in our cause. He asks no recompense at our hands. His has been a labor of love, with no thought of reward but the approval of a good conscience and the accomplishment of a noble ambition. If we can induce our brother to take charge of our "Transactions" we would have the benefit of his acknowledged ability in censorship, the delays incident to our present plan of publication would be obviated, and we would enjoy all the advantages accruing from a largely increased circulation. Stimulated by the knowledge that our "Transactions" are not confined to our own narrow limits, but are subjected to the criticisms, friendly or otherwise, of the great medical world, we would naturally redouble our efforts, and, if this plan is adopted, I predict an era of intellectual activity in our Society such as we have long hoped for, but have hitherto failed to attain.

A speedy publication of the "Transactions" greatly enhances their value. It should be a rule of the Society that articles which are not received within ten days after the close of the meeting shall not appear in the "Transactions." This is no hardship. Papers can be handed in during the session, and the best time to revise oral communications and impromptu remarks is while the subjects are fresh in the memory.

It seems a pity, inasmuch as we meet only once in twelve months, that our sessions should be so short. I strongly urge for your consideration the advisability of appointing an earlier day of the week for our meeting.

Our time, short as it is, could be more profitably utilized if a detailed programme were arranged in advance of the meeting. With little trouble the title and scope of papers to be presented could be obtained, and these, with the subjects for discussion and other items of information incorporated in a programme, a copy of which should be sent to each member with his notice of the meeting. I suggest that this matter be entrusted to the President and Secretary of the Society, in conjunction with the local committee of arrangements.

One of the most attractive features in the annual meetings of the Dental Association consists of the clinical lectures. One or more hours of each day are devoted to this purpose, and I am assured by personal observation, as well as by the testimony of friends in that profession, that numbers are induced to attend the meetings by the instruction thus afforded. I earnestly commend this idea to your consideration, and suggest that members be encouraged to present to this Society, at designated hours, such cases of interest as can be easily obtained in any community. The profit derived from these demonstrations would doubtless be greatly enhanced by securing the attendance at each of our meetings of one or more of the great clinical teachers of the country.

As your President, and on your behalf, I have taken the liberty to invite to this meeting several gentlemen from distant States, who have made themselves eminent in the profession. For such as have responded to this invitation, and by whose presence to day we feel ourselves honored, I bespeak for the Society a most hearty welcome.

In this connection I desire to emphasize the importance of maintaining, and, if possible, increasing our fraternal relations with the medical societies of adjoining, and even distant, States in the Union. The friendly association with their delegates, their investigations of our plans and methods, and their participation in our discussions, cannot fail to stimulate us to renewed activity in our own domain, and enlarge our horizon, to the manifest enhancement of the interest and profit of these meetings. An appointment as a delegate to another medical society should be regarded, not as an empty compliment, but as an honor; and, if accepted, the duty of attending the meeting of such society should be considered obligatory.

As a man grows older his love for old customs and ways grows stronger. This must be my excuse for directing your attention to an innovation in the method of publishing and calling the list of members. Formerly the names were called at our meetings and published in the "Transactions" in the order in which the signatures were appended to the Constitution. The alphabetical list may perhaps be more convenient, although I am not ready to admit it. In any event, I hope the Society will instruct the Secretary to call the roll in the old way, and have the list of members published in the "Transactions" in the order in which they signed the Constitution, with the year of admission opposite the name, as a slight recognition of the claims of the veterans in our ranks.

By an oversight, which is to me inexplicable, we have in recent years failed to show the respect we certainly feel for the memory of deceased members. The last report of an obituary committee mentioned in our "Transactions" was made in 1881. Since that time no notice has been published of the death of members, many of whom, during their life, occupied prominent positions in the State and were active and valued members of the Society. The memory of such men as Marcellus Whitehead, C. Tate Murphy, Hugh Kelly, J. K. Hall and H. W. Faison will always be dear to this Society. In them were blended all the qualities that make the true physician and Christian gentleman. It is not my purpose to pronounce their eulogy, which deserves to be placed in abler hands. I ask the Society to authorize me to appoint an obituary committee, who shall at this meeting attempt to correct an unintentional omission of duty on our part, by rendering a fitting tribute to the memory of our departed brothers.

Fellow-members, you must be aware that the suggestions I have offered for your consideration are dictated by the love I bear for our Society, and in the hope that their adoption may aid in promoting its interests.

You have shown your appreciation of my devotion to our beloved Society by conferring upon me the highest honor it is in your power to bestow. I must crave a further favor at your hands: Bear with me in my inexperience, and lend me your assistance in performing the important duties which devolve upon your presiding officer.

ALIMENTATION IN CONTINUED FEVERS—THE SOCIETY PRIZE ESSAY.

By Dr. Francis Duffy, New Bern, N. C.

[Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.]

The celebrated Dublin physician, Dr. Graves, more than half a century ago, was content that his epitaph should be: "He fed a fever." Before Dr. Graves' day starvation was classic management of fevers; food was considered as only fuel to the flames. Fever patients often had to stand (if stand they could) the ravages of disease plus depletion and deprivation of sustaining aliment. But clinical observers began to grow skeptical of the utility of this management, and when, at last, fever patients began to be fed, it was progress in the right direction, although the principles governing alimentation were but little understood, and the crude process of swallowing food not chosen or indicated, either by the instinctive guidance of desire or the theoretical knowledge of chemistry and physiology, was often as harmful as starvation itself. The day came, and perhaps in many places and with many men is yet, when substances of little or no food value were relied on to sustain life, when other substances, rich in food value were put in the stomach in greater quantities than could be harmlessly disposed of, and when substances in themselves harmful from indigestibility or other unsuitableness were allowed, or rather forced, upon the patient. Between these two extremes of starvation and suffering we may, as in most other cases, go safely in the middle way. That the natural, healthy human body can undergo periods of absolute starvation (water being allowed) varying from twenty to forty days, seems to be established beyond a doubt, and a very little nutriment, the body being in a state of rest, will sustain life through a much longer period. The clinical history of Typhoid Fever rarely embraces a period longer than a healthy man can starve. With these facts, let us further consider that there are other points somewhat in favor of abstinence in fever—let us consider what nutrition is; what the conditions are which are necessary to attain it; to what extent these conditions exist in continued fevers; and whether attempts at nutrition which result (as is often the case) in only the presence of undigested or unabsorbed alimentary substances in the alimentary canal is not absolutely harmful. The process of nutrition requires, (1) Digestion—the conversion of foods into alimentary principles. (2) Absorption and distribution of these principles through the blood and lymph vessels. (3) Assimilation—the arrest or reception of these principles by the tissues and their conversion into the living elements of the body. Only the healthy body, with normal temperature, normal circulation, normal condition of the nervous system, with different kinds of nerves regulating or controlling all of the secretions and vital processes of the body, can perform these several functions to a degree requisite to the disposal of the daily allowance of food necessary for the maintenance of the body in health. The idea that increased destructive metamorphosis incident to the fever process calls for increased nutrition would, from a superficial view, seem to be theoretically correct, but practically we cannot accomplish it. The rapid molecular death of the tissues, under the influence of high temperature and the ensemble of chemical and vital phenomena which constitute the finer process, is incompatible with tissue-building to an almost prohibitory degree, and the digestive laboratory is crippled and incapacitated for performing its function. We cannot rebuild the new edifice while the old one is yet in flames. If, when gastric digestion is suspended albuminoid substances are artificially converted into peptones, absorption is not assured, and if accomplished, on the principle that any liquid would be absorbed by a thirsty soil, the third and crowning act of nutrition, viz: assimilation, can only be performed in a limited degree, and the blood, already burdened with the waste products of the body, which the emunctories are constantly removing, is further charged with the disposal of an excess of alimentary principles; retrograde metamorphosis goes on in the blood, and the amount of urea excreted represents not alone tissue waste, but waste of alimentary principles—peptones not converted into tissue.

Dr. Fothergill, while not writing dogmatically on a subject almost beyond demonstration, at least raises the question as to the possibility of a liver at a high temperature being able to perform metabolism, and to convert proteid matters into serum albumen necessary to tissue repair, and further the more probable retrograde metamorphosis and formation of kreatine—kreatinine, tyrosin and toxic products which poison the blood and add to the typhoid state. In connection with this subject of toxic products formed from alimentary substances, it may be well to refer to the curious alkaloids known as ptomaines. These substances, producible from the cadaver in a state of decay, are sometimes found in the alimentary canal in life. The exact conditions necessary to their production are probably unknown except that it is a putrefactive change, but occasionally violent poisoning follows, the ingestion of foods apparently not unwholesome. (I believe the albuminoid substances are invariably present in such cases.) Chemical analysis of the foods not eaten fails to discover any poisonous substances, but in the alimentary canal a poisonous alkaloid is found, which chemists have claimed to isolate. Without asserting anything in this connection, is it not worthy of questioning as to the possibility of such conditions existing in the alimentary canals of fever patients as may produce poisonous substances by reaction upon foods which are under favorable conditions wholesome? In the *American Druggist* of September, 1885, is an article on the subject of ptomaines, giving an account of a report of Prof. Brieger to the Physiological Society of Berlin on the subject:

"Seeing that the ptomaines must here be regarded as the products of the pathogenic bacteria, Prof. Brieger set himself the task of studying the products of pathogenic bacteria."

Following this, after giving an intricate account of ptomaines which developed under natural putrefaction, it is stated that "It was the culture of the typhoid bacillus in meat in fusionand meat jelly which first led to the isolation of two new intensely poisonous bases, one of which being injected in small quantities into animals acted similarly to neurine, producing death under a strong flow of saliva, paralysis and diarrhœa, while the other produced only violent exhausting diarrhœa. In the *Druggist's Circular and Chemical Gazette*, May, 1886, it is stated that "M. Gautier, at a recent meeting of the Paris Academy of Medicine, presented an important communication on ptomaines and leucomaines." He then discussed the leucomaines or the physiological alkaloids formed in the tissues during life. The animal organism resists this constant auto-infection by means of two distinct processes—elimination of the poison and its destruction by oxygen." This natural oxidization and elimination must be complicated to a certain extent if the blood is charged with the additional and unnatural function of disposing of digested products which diseased tissues cannot assimilate. Having pointed out some of the theoretical dangers of over-alimentation, these theories being based on anatomy, physiology and chemistry, let us turn to the practical or clinical aspects of the subject. The practitioner who administers to his patients having continued fevers a glassful of milk every two or three hours, also a quantity of beef tea, gruel or other liquid nourishment (of the sort considered most judicious in such cases) when there is no relish for it, and perhaps a positive repugnance, which could not be overcome except that thirst calls for liquids of some sort, will often encounter difficulties, some of which are as follows: nausea and vomiting, fermentation and formation of gases and other unwholesome products, increased tympanites and diarrhœa, the discharges in which often show undigested portion of the ingesta. Even the meat extracts can sometimes be recognized, and masses of casien separated from milk and varying in size from a pea or smaller to the size of a partridge egg are very common. When an excessive quantity of nutriment is swallowed the best thing that can be done with it is to discharge it from the stomach or bowels. If the practitioner is ambitious to stop this wholesome diarrhœa and has in his armamentarium anything which will accomplish his purpose, it will only be worse for his patient, for that which is digested and absorbed and which cannot be assimilated, will help to overcrowd the emunctories, increase the temperature and deepen the typhoid symptoms, and that which remains undigested in the alimentary canal, will cause the distress already referred to, and perhaps cause perforation of the ulcerated intestine, either by increased mechanical friction or by over-distension of the bowels by accumulated gases. I fear that the directions as to feeding which are given in some of our text-books are too literally carried out without necessary discrimination.

Dr. Loomis, after telling us of the degenerative changes in the salivary glands and in the glandular structure of the stomach and of the pancreas, and consequent loss of digestive function, says: "The quantity of milk is not limited, the patient may take all his stomach will digest—usually the patient will take from four to six quarts in twenty-four hours." Let us compare this with the quantity of food necessary for the daily wants of a healthy adult in active life. Dalton's Physiology, seventh edition (latest), page 130, sums up the different nutritive principles requisite as follows:

Albuminous matter	Grammes	130
Starch and sugar	"	300
Fat	"	100
Mineral salts	"	20
Water	"	2000

The imperial gallon, weighing 10 pounds, the standard gallon of the United States, weighing 8½ pounds, and the New York gallon, weighing 8 pounds, are liable to cause confusion when accuracy is desired. I will base my calculation on the New York gallon, as the book is from that State. The average specific gravity of milk being about 1030, there would be in one gallon of nutritive matter, approx imately, as follows (there being in milk 43 parts of albumen to the thousand):

Albuminous matter	Grammes	150+
Sugar (nearly)	"	200
Fat	"	125+
Mineral salts (about)	"	14

This shows albuminous matter considerably in excess of the wants of the healthy adult at work. Also fat in excess, and that a substance which a fever patient loathes—sugar of milk deficient, also mineral salts deficient. The patient who can, as the text says, "take six quarts," will have an excess in addition to the above of 50 per cent. This seems to be feeding with reference to the waste of the tissues and with no reference to assimilation or what effect the surplus will produce. Will any patient swallow such a quantity of milk as an average of a quart every four hours, except as an act of compliance with the urgent solicitations of those who have him in charge?

The *Journal of Reconstructives*, April, 1886, quotes the experiments of Reichmann upon the length of time required by the healthy human stomach for the digestion of milk. About one-half a pint of raw milk was usually given at a time, and from time to time was removed from the stomach by the sound and pump. "The quantity mentioned (one-half pint) was found to be digested in three hours, and in four hours the last traces of the acid fluid had left the stomach." At this rate supposing that satiety was never reached and that the stomach kept constantly at work, two quarts would be digested in twenty-four hours by the healthy human stomach. According to Dr. Loomis the stomach of the typhoid fever patient "takes usually from four to six quarts!" [Practical Medicine (a text-book of), by A. L. Loomis, second edition, p. 645.]

Dr. Flint says: "It is desirable for the patient to take as much nutritious food as will be digested and assimilated," and that sentiment, which cannot be gainsaid, seems to be about what all the writers mean, but authors and practitioners seem to have a different conception of what that quantity is; for instance, Dr. Flint says: "It is desirable for from one to two quarts per diem to be ingested."

Dr. Loomis, from whom I have quoted, writes of from four to six being usual. Within a few years a great change has occurred in the estimate placed upon beef tea and most meat extracts. Formerly (and often in these days) a quantity of fresh beef or other meat was thoroughly boiled in a little water, and this "tea" was in a great measure relied upon to sustain the patient. Now, it is generally known to contain none of the best elements of the meat and little of anything useful, and as it contains even excrementatious principles or products of retrograde metamorphosis, the grave question is raised as to how much harm is done by adding to the blood principles which in fever are already in excess. Some of these principles are said to be similar in their physiological effects to tea or coffee. Most commercial meat extracts are in the same category. Gelatin, a constituent of beef tea, has been proven to be of no value when taken alone, and even some experiments would tend to show it of no value, even in combination; but as it causes an increased production of urea, it is likely (in combination) of some food value.

Dr. Fothergill, while recognizing the importance of albuminoids, and especially the use of milk, which contains so many elements of nutrition, makes a strong plea for the use of carbo-hydrates in acute and prolonged fevers. He maintains the improbability of tissue genesis during an acute pyrexia* and consequent uselessness of over quantities of albuminoids, while the heat-producing elements are in great demand. Grape-sugar or glucose, in some of its forms, is the most easily assimilated, and should be freely supplied to prevent exhaustion. Dr. J. H. Bennett, from whom he quotes, maintains this doctrine, and supplements the heat-producing carbo-hydrates with alcoholics. Although standard authors advise the use of starchy foods to some extent, such as rice, baked flour, gruel, etc., it is a departure from the accustomed rule to subordinate the use of the albuminoid principles to the use of the carbo-hydrates. In the comparison already made between the different alimentary principles in a gallon of milk and the daily necessaries of the healthy adult, it has been shown that, although the albumen and fat were considerably in excess, the carbo-hydrate milk-sugar was deficient, and also, to some extent, the mineral salts. In the smaller quantity of milk, which is all most patients can use with advantage, the deficiency will be correspondingly greater. The writer has been himself the subject of a continued fever. The first day or two after the confinement to bed only water was taken; every form of nourishment was disgusting, and he cannot believe would have been useful. Then for a few more days only a few teaspoonfuls per diem of Valentine's Meat Juice were swallowed—sometimes with a little relish, sometimes with only a bare tolerance. Tea, with milk and sugar, rain-water, with ice and carbonated waters, were drank *ad libitum* to allay thirst throughout the disease. After the first few days a little milk was taken, also gruel, in small quantities. Butter-milk was far more palatable than unchurned milk, and was relished in considerable quantity and always agreed well in every respect. Clabber was used with the same relish and advantage. Chicken-water, with starchy substances, was occasionally used. Alcohol sparingly; toward the last Hoff's Extract of Malt;* and in no single instance was any one of these alimentary substances swallowed without at least a tolerance, and often with a little relish, especially as to the butter-milk and clabber, the slight acidity of which substances tends to make them agreeable to the thirsty fever patient. And theoretically they have advantages over unchurned milk, which in any considerable quantity furnished more fat than the fever patient can dispose of, and usually, there being considerable adipose tissue in the body, the want of this substance is not felt to the same extent as with the albuminoids and carbo-hydrates. The small amount of histogenesis which can be accomplished under such circumstances, will not be retarded for want of the fat necessary to the process. The lactic acid ($C_3H_6O_3$) which butter-milk and clabber contains is a carbo-hydrate, and from its acidity will render palatable the addition of other carbo-hydrates, such as extract of malt, honey (a mixture of glucose and saccharose and a little wax, etc.) or cane-sugar. In the attack of fever referred to neither appetite nor tolerance was ever wholly subordinated to mere theories of feeding. When food could not be taken without disgust it was not taken. When for many days at a time there was nothing which would do to call appetite, the articles already referred to were taken at intervals of a few hours in small quantities and always within the limits of an easy tolerance. Throughout the illness there was but little gastro-intestinal disturbance, but the loss in weight averaged nearly a pound per diem through a period of three weeks.

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*He refers to the observations of Drs. Ord and Broadbent, tending to establish these views. [Report to Medical Society of London, 1885.]

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*An alcoholic pleasant beverage, containing nutritive carbo-hydrates.

No method of treatment of typhoid or other continued fevers of serious nature is of the undoubted value of judicious alimentation. The question of what we shall do, and how we shall do it, becomes a very grave one when we consider the theoretical and practical dangers of the subject. When we consider, on the one hand, the danger of starvation from too great an abstinence from food or too great a reliance on articles (such as ordinary beef tea) of little or no food value, and on the other hand of over-feeding or the giving of different alimentary principles in injudicious proportions, perhaps too much of one and not enough of another.

The prominence given by Dr. Fothergill to the use of the carbohydrates in continued fevers is unusually great, most authors giving greater prominence to the class of albuminoids. There will probably be some changes setting in the direction of Dr. Fothergill's views. In deference to his advocacy of grape sugar or glucose, as well as to the desires of fever patients, I have in a few cases used the juice (excluding everything else) of the ripe scuppernong grape, in which glucose exists in its natural state. In no case have I any cause to regret it. In a few cases I have used the juice of the Malaga grape, which is not half so rich in glucose. In one case, that of a vegetarian, who was accustomed to eating grapes, the Malaga grape juice was taken with relish and apparent advantage. This patient had been sick about three weeks when I first saw him. From his prejudices and peculiar mode of diet, eating only once in twenty-four hours, he was at a very low ebb, having an almost unaccountable hiccough. He had fever forty days and recovered—proving both the error of starvation and the possibility of living under it with a fever during three weeks. My last fever patient, one now convalescent from an attack of continued remittent fever of three week's duration, was given Malaga grapes several times, but they did not seem to agree with his stomach very well. He voluntarily rejected them. There can be no arbitrary or invariable rules in regard to these matters. The individuality of the patient belongs to him, whether sick or well. It is not the fever which needs to be fed, but the patient; and this fever-stricken individual has his generic and his specific wants—generic in all that constitutes the selection of alimentary principles with reference to the physiological functions of persons in general—specific with reference to all that constitutes individuality, ranging in varying degree from the common type to the most peculiar idiosyncrasy. The patient's tolerance or intolerance as regards desire of what is offered him must be a strong indication as to what nourishment he should take. Food should certainly not be taken in any greater quantity than it can be digested and assimilated. If much milk is taken which has not been previously peptonized by some digestive agent, such as extract. pancreatis and sodii bicarb. or lacto-peptine swallowed with it, portions of it will usually pass through the bowels undigested and generally in the form of separated masses of casein. Neither will the starches be digested except in proportion as there are salivary, pancreatic and intestinal juices to convert them into glucose. Where soluble glucose and peptones ready formed are administered, the question arises as to what extent they can be beneficially disposed of in the economy. The experiments of physiologists have determined that glucose by dehydration is stored in the liver in the form of glycogen, and that this glycogen by hydration is from time to time reconverted into glucose, which is constantly fed out to the blood of the body in general, thus insuring a constant supply between the acts of feeding and digestion. In some cases of typhoid fever the liver is said to undergo but little structural change; in such cases it can most likely perform these functions, but in those cases in which it undergoes a degeneration of its glandular structure, it is not reasonable to suppose that its functions can be executed and theoretically the glucose would be better ingested in small quantities at shorter intervals. As to the peptones, the evidence is in favor of the assumption that histogenesis cannot go on, not at all commensurate with the waste during an acute pyrexia, and that retrograde metamorphosis can occur to a harmful degree in the blood. In this connection the grave question arises as to the possibility of doing more harm by the administration of digested than of undigested alimentary principles, as the latter are more readily discharged from the alimentary canal than excess of the former from the blood. I think I can safely say that I have often seen benefit from the use of digestive agents or ready digested aliments in acute pyrexia, as in other conditions, although the danger of digested excess of milk peptones, beef peptonoids, etc., is a real one, and if the patient without power of digestion has a conservative loss of appetite, has not also the patient without power of assimilation a conservative loss of digestion? In view of the subjects and questions herein discussed, it is evidently not an easy task to feed the continued-fever individual patient with the best articles possible in the best possible proportions. Our greatest efforts will probably be only an approximation to this highest standard of excellence, and if we ignore alike the cravings and the disgust or the tolerance and the intolerance of the patient, and substitute the routine dietary of books, the opinions of authorities, or the apparent indications of science (although these are of great value), we shall make many mistakes. The inclination of the patient is a voice from within, an intelligence intimately connected with those processes in the tissues which determine their acceptance or rejection of nutriment. Degeneration of the glandular elements of the various digestive organs, rapid histolysis, increased waste products and defective elimination are voiced in that way. "It is a sound maxim in medicine that the therapeutic indications derived from science and from nature, as a rule, should harmonize," and when the scientific guidance of the physician and the instincts and desires of the patient go hand in hand, there can be but little difficulty in fulfilling the indications. There are instances where the fever process or poison so overwhelms the faculties of the patient as to deprive him of any choice in the matter, perhaps these cases would be fewer if alimentation was more judiciously performed from the first. Prof. Austin Flint (address to the New York Medical Association, 1884) quotes a German experimenter as having claimed to produce fatal toxæmia in dogs by the use of "beef tea," the excrementitious principles of which produced that effect. And innutrition itself tends to stupefaction, as also does the presence in the blood of unassimilable peptones (unassimilable from antagonism of histolysis to histogenesis). It is in these cases where the physician is deprived of the guiding instincts of the patient that he will naturally experience the greatest difficulties in alimentation. He has then to consider what are the wants of the healthy, active human body—both as to quantity and quality of alimentary principles, and what are the powers of that body as to digestion and assimilation, and then to consider these matters with reference to the fever-stricken patient, and what modifications are necessary on account of his disease and his individuality. Then, being impressed with the fact that it is easy to give too much, give rather too much than too little; for we can by scrutiny detect some of the manifestations of redundancy, and it is, perhaps, if err we must, the safer side on which to err.

SELECTED PAPERS.

ADDRESS ON SOME NEW ASPECTS OF THE CHOLERA QUESTION SINCE THE DISCOVERY BY KOCH OF THE COMMA BACILLUS.

By E. O. Shakespeare, M.D., of Philadelphia, lately United States Cholera Commissioner.

Delivered before the Medical Society of the District of Columbia, March 16, 1887.

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At the commencement of the invasion of Egypt, in 1883, by Asiatic cholera, it has been pretty well agreed, as you know, by most of the medical world, including the gentlemen, who, under the direction of the Marine Hospital branch of this Government, made an investigation and a most valuable report of the last cholera epidemic in this country—that of 1873—that the disease was, in all probability, due to a specific action of a specific virus, which, in all probability, was of material form, which had a natural habitat in some part of India, and was exotic in the rest of the world. They regarded cholera as a contagious or an infectious disease; that is transmittible from man to man, and, therefore, transportable from place to place in various ways. So that, when Koch undertook to discover this specific germ, he did nothing more than endeavor to bring before the eyes an object which already was believed to have an existence.

And, notwithstanding the fact that various micro-organisms in past years had been found associated with cholera, because of the fact that Koch was the recognized leading bacteriologist of the world—with the exception, perhaps, of Pasteur—and because of the fact that in all of his announcements to the medical world of his previous discoveries he had universally, as I understood, without exception, received a wide confirmation of the announcements which he had made. Therefore more than a usual degree of expectancy was created by the mission of Koch to Egypt and India, with a view of undertaking an investigation of the etiology of cholera. When his announcements were made, in various bulletins to his

Government, of the discovery of a peculiar orgnism in the dejecta of cholera patients, with characters enabling one to distinguish it readily from all other micro-organisms; and when he announced at the same time that this micro-organism was not to be found in any other disease, and therefore constituted a reliable diagnostic sign indicative of Asiatic cholera, many medical men throughout the world were already predisposed to accept these announcements as at least worthy of serious investigation. The result of his discoveries confirmed the conviction of those who believed in the existence of a living contagium as the cause of cholera, regarded cholera as a contagious or communicable and a transportable disease, and also thought that in order to prevent visitations of the rest of the world by cholera, some quarantine measures and other means of prevention, as absolutely necessary to be enforced.

The English Government was being most interested in the question of quarantine, and held—especially their representatives in India—that there is nothing contagious about the disease, that it was no more transmittible from place to place than malaria, and that measures of quarantine and other restrictions are not only useless, but unjustifiably harmful to the conduct of trade between the East and the West. That Government was, therefore, naturally the first to send out another Commission to the scene of Koch's labors, for the purpose of reëxamining his investigations. As you know, that Commission returned to London in due time, and published a report in which not only the conclusions of the German Commission were contested, but almost every detail of the report of that Commission was flatly contradicted; at the same time the report of the British contained indirect statements—I should rather say, contained statements which indirectly supported the assumption very widely entertained by high officers of the British Government, and particularly those in India, of the non-infectiousness of cholera dejecta. Following this contradiction many others occurred in due course, but is not necessary for me here, nor have I the time to relate them.

The United States Government, being as much interested in the question of the etiology and the prevention of cholera as any other by reason, at least, of sixty millions of inhabitants (a number almost twice as great as the inhabitants of any European country outside of Russia), concluded that it would be advisable to have the grounds of these differences of opinion investigated by one of their own representatives.

I went to Europe in the fall of 1885, when the cholera was almost ended there. It was, however, still existing in the City of Palermo and in some parts of Spain. I went to Palermo because that was the largest field of investigation at the time, and I remained there until the epidemic ceased. From there I went to Spain by way of the Italian and French Riviera, stopping at different places which had been visited by cholera in 1884 and 1885, for the purpose of examining into their hygienic condition and of learning something of the history of the epidemic in them. I reached Spain when cholera was no longer existing in that country—that is, acknowledged officially as existing—except in the south, along the Straits of Gibraltar. I had ample opportunity to make bacteriological investigations concerning the relation of the comma bacillus of Koch to Asiatic cholera, as well as the relation of other germs to that same disease, as also opportunities to inform myself concerning the grounds of difference between Koch and his opponents as regards matters of fact. These opportunities were also somewhat extended by my visit to India. I had no difficulty whatever in confirming the statements of Koch with regard to the constant existence of the comma bacillus in certain stages of Asiatic cholera in the dejecta of patients suffering from that disease; and in confirming also his statements as to the distinctive characteristics of the bacilli distinctions, which enable one to separate them readily from all other micro-organisms known up to the present time.

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I can only say that I agree entirely with Koch as to the diagnostic value of the comma bacillus, and therefore disagree with the conclusions published in the first report of the English Commission, with Dr. E. Klein at its head. I would say at this point that I regard this as the most important point of Koch's investigations. In the discovery of a reliable and an easily applicable distinctive means of diagnosis of Asiatic cholera at the very first moment of invasion of a locality or a country, I consider that Koch has conferred upon the human race an inestimable benefit, for, with the proper application of this means of diagnosis, health authorities and governments will now more than ever before have it in their power to prevent an invasion of cholera and cut short the spread of an epidemic. The value of this discovery, as I have said before, I consider incalculable.

But as to the other part of the claim of Koch—for his claim is two fold—in the first place, the discovery of a reliable diagnostic sign; in the second place, the discovery of the active agent or cause of Asiatic cholera—I think there is still reasonable ground for doubt. The fact that, so far as we know at present, there are none of the domestic animals which are naturally susceptible to this disease, makes it difficult to settle the question as to the pathogenic power of the comma bacillus by means of experimentation upon animals. It is true that a *quasi* cholera has been and can be readily produced in Guinea-pigs, and according to some also in dogs and rats, by the inoculation of these animals with pure cultures of the comma bacillus of Koch; but there is lacking the complete chain of symptoms with which we are familiar in genuine Asiatic cholera in man. The vomiting is usually absent, and also the diarrhœa; nevertheless, a cyanosis, or algidity, and sometimes the cramps, and the death of the animal with the well-known characteristic intestinal contents are met with after the inoculations. I myself have performed numbers of these inoculations and satisfied myself as to that point. But still there is a question—at least in the minds of a great many—as to whether the symptoms following inoculations of these germs are really those of Asiatic cholera or not, and on that account it seems to me that the question of pathogenesis of cholera must for a time remain open. In the course of my remarks I shall have occasion to say something about the results of the human inoculations which were extensively performed in Spain, with cultures of the comma bacillus.

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I now drop the subject of bacteriology and come to another point which had been more or less overlooked in an extraordinary way up to the time of the present epidemic, although scattered observations appear here and there in the history of the subject—observations, I may say, however, made by the most distinguished writers on the subject. I refer to certain peculiarities which have been noticed in the course of cholera in individuals, in villages and in countries. James L. Bryden was the first to point out the periodicity of epidemics of cholera in India, but did not undertake to explain it except by the influence of the monsoon. Subsequent investigators of cholera in India have also noticed this periodicity. The periods of recurrence of cholera epidemics in different parts of India range from three to four years, as a rule, whilst the periods of recurrence of small-pox vary from five to six years. For the provinces outside of the endemic area there is a very marked periodicity and a very considerable similarity between the rise and fall of cholera and of small-pox. Charts showing the annual mortality from cholera in the other provinces strikingly indicate the periodical character of epidemics of cholera in various sections of India.

This periodicity has attracted the attention of many investigators, although the fact seems to have passed by without any general notice, and yet it seems to be closely connected with the explanation of some of the important peculiarities of cholera in India as well as elsewhere. It has been noted in India, for instance, that instead of cholera advancing down the course of the rivers, it invariably travels up them in certain countries. In the eastern part of India, in the epidemic years, cholera travels up the Ganges toward the northwest, instead of moving down stream. The movement of an epidemic down the Ganges to Bengal is unknown in the history of cholera in India; the only part of Hindostan where it often goes down with the current is in western and southern India.

Another remarkable and hitherto unexplained fact is that cholera dies out in the localities visited without having smitten the whole population; and the further fact that where large percentages of the inhabitants of a place invaded by cholera flee to a distance and subsequently return to their homes before the epidemic has entirely ceased, the ravages of the epidemic continue mainly among the returned refugees; in other words, among the people who have not become subjected and habituated to the cholera influences which are still prevalent in the town to which they return, is still more inexplicable. Then, again, there is the strange fact that a recurrent attack of cholera is an extremely rare thing. It is, indeed, so rare that very few people whom I met with in the countries where they severely suffered from cholera, had ever seen a recurrent attack of it in the same epidemic. Recurrent attacks in a second epidemic are not extremely infrequent, but it appears to be quite as rare to observe a recurrent attack of cholera during the same epidemic in a person who has recovered complete health after his first attack, as to see such a thing in scarlet fever or measles, or I might say also in small-pox.

In speaking of these questions I might refer to the researches of my friend, Dr. John L. Keating, of Philadelphia, who is greatly interested in the diseases of childhood, and who, at my request, kindly looked up some records regarding early recurrences of scarlet fever and other infectious diseases for use in my official report. I regret that time does not permit me to lay before you the valuable table which he has furnished, but I will read you a portion of his letter accompanying it, as follows: "I may say that, as a rule, all the zymotic diseases protect from recurrent attacks, or at least have a tendency to lessen the severity of these recurrences, the exceptions which prove the rule occurring very frequently in each disease." "In my table I have not included the relapses which are most frequent in typhoid fever, but I have only mentioned those attacks that have been followed by restoration to health, and in which, after a shorter or longer period of time, there has been a recurrence of the disease; measles present these peculiarities oftener than any of the others, but it is by no means uncommon in variola, scarlet fever and whooping-cough." In this table, in the main relating to well authenticated early recurrence of scarlatina, many instances of recurrence in two or three weeks of attacks of scarlet fever and measles are recorded.

When in Spain I addressed a series of twenty-four questions bearing upon the cholera in that country to the physicians of every village in that country which had suffered from cholera in 1885. Among those twenty-four questions was one which requested the physician to inform me whether he had any personal knowledge of a recurrent attack during the same epidemic; if so, to give me the details. Among the large number of replies to the 2,500 letters which I thus addressed, I received only eight which related to recurrent attacks. Six of those eight recorded, according to the details given in the letter, appear to have been *relapses* before the establishment of perfect health, after imprudences in diet and imprudences of other kinds, rather than recurrent attacks of cholera, and the number was thus reduced to two, which may have been genuine recurrences or have been attacks of cholera-morbus (or nostras).

The French Academy likewise addressed a series of questions to the villages in France which had suffered from cholera in 1884, and one of the questions in their circular letter bore upon the same point. In the replies received an account of ten recurrences (or relapses) the distinction between relapse and recurrence was not made in their replies.

These are matters which have attracted the attention of some of the most distinguished observers, and caused them to admit an immunity following an attack of cholera, as you will notice when I cite some of the history of the opinions of authorities upon this point. Among the early writers is Morceau de Jonnes (1832), who said that: "If a few rare or doubtful cases are excepted, it (cholera) does not attack the same individual twice, although he finds himself under the same condition as when he contracted the disease." Dr. Sámano, of Spain, in 1858, declared that "genuine cases of relapses are few, and recurrences are still more rare," and Lebert, one of the most distinguished investigators of his time, firmly believed in the immunity which an attack of cholera confers.

Many of the International Health Congresses discussed this matter, particularly that of Constantinople in 1866. They distinctly admitted in their conclusions, adopted by a unanimous vote, that there is a certain amount of immunity which is produced in a town by a visitation of cholera. Speaking of the pernicious effects of crowding together of people, they point out as an amelioration that an habituation to the choleraic influence and the experiencing of choleraic attacks, counterbalance these bad effects; and they said the same of crowds upon ships. The next in order of time (1868) is Griesinger, who distinctly stated that next to good hygiene and pure water, an attack of cholera is the greatest protection against the invasion. Colvin (in 1879), although he distinctly expressed as his conviction that there is no such thing as immunity against an attack of cholera, in the course of his book refers to facts which most positively support the assumption of an immunity, particularly in the history he gives of cholera in the Crimea during the war, and in the accounts of some military epidemics.

In later times (1883) Dr. Proust, the distinguished hygienist of the University of Paris, as also Fauvel, another distinguished hygienist of France, after a thorough discussion of the facts of the subject, most positively declare that there is an immunity following an attack of cholera, more or less lasting, as there is with the other infectious contagious diseases, and they class cholera in the latter category. Dr. Proust ends his remarks on that subject thus:

"Indeed, the facts newly acquired by science relate to questions of immunity and illuminate them from a side heretofore unknown.

"The etiology and prophylaxis of cholera in particular may deduce from it (immunity) new indications.

"These facts, moreover, appear to be the expression of a law which embraces the whole of another special category of pestilential diseases due to a contagium and leaving after them an immunity more or less lasting."

Greisinger, Wunderlich and Pettenkofer, in their "Cholera Regulation," most unequivocally affirmed the existence of an immunity of considerable duration and force. And lastly, we come to Koch,·who, in the discussions of the cholera question before the recent Berlin Cholera Conference, after relating the facts upon which his conclusions were based, most positively expressed his acceptance of an immunity, more or less lasting, from an attack of cholera, and classified that disease among other zymotic diseases which are followed by immunity. He affirmed that unless the immunity theory be accepted, there is no possible way of explaining why it is that epidemics cease in a town without attacking the whole of the people who are living together under miserable conditions, and why it is that recurrences are so extremely rare, and there is no other way of explaining satisfactorily the peculiarities of the course of cholera in India, viz: the periodicity of the disease there, and the fact that it travels up rivers in the East, instead of going down them. But I cannot occupy your time further in the citation of distinguished investigators, who, up to the present time, have regarded cholera as among those diseases which confer a more or less lasting immunity after an attack, and I shall be obliged to leave unsaid much of that which I intended to speak.

I have spoken of the immunity which follows an attack of cholera. I believe immunity to be as certain a sequel of cholera as it is of most of the other zymotic diseases. Otherwise it is impossible to explain why it is that a person in the early part of a long epidemic suffers the disease and recovers, with his digestive apparatus in a miserable condition, perhaps with chronic dyspepsia and chronic diarrhœa for weeks and even months, and yet that person, living under the same conditions under which he took the disease, passes through the epidemic free of a second attack, especially so in view of the fact, as is well known, that in a person who is not already protected by a previous attack, digestive disturbances are very sure to dangerously increase the predisposition to an attack of cholera. And yet, as I have pointed out, it is the rarest thing to meet with a second attack of cholera in the same person in the same epidemic.

This brings me to the question of the Ferran anti-choleraic inoculations. The German Commission stopped with the announcement of their belief in the immunity which follows cholera, not dreaming of making any practical applications, notwithstanding their reference to the practical use of this immunity which the Indian Government makes in their directions for the government of the troops during epidemics of cholera. I allude to the standing orders to select the nurses from the native population, and especially from that which has recently experienced an epidemic of the disease. Ferran, as you know, became notorious throughout the world from his announcement of a preventive inoculation against cholera. Previous to this announcement, I may say, that Dr. Ferran was regarded in Spain as one of the leading, if not the most prominent bacteriologist in the country, he having been awarded a year or two before a gold medal by one of the medical institutions in Madrid, for researches relating to bacteriology. His reputation as a bacteriologist and as an earnest, reliable investigator, was such that, when the cholera broke out at Toulon, he was selected by the Government of Barcelona as the head of an official Commission to go to Toulon for the purpose of investigating the cholera and reporting officially. His first communication on the subject of inoculation was addressed to the municipality of Barcelona, and sometime after his return from Marseilles, and was referred to the Royal Academy of Medicine, of Barcelona, which is regarded in Spain as perhaps the most distinguished medical body in that kingdom, for their judgment of the report. That medical body appointed a Commission to investigate the grounds of Ferran's claim. The investigation ran through two or three months, comprising experiments by Ferran performed before them upon Guinea-pigs, the making of cultures, and the performance also of human inoculations, to a certain extent, among the members of that Academy mainly. The report of that Academy was confirmatory in most respects of the announcement of Ferran, and it was this report upon the Ferran question which first reached and excited the interest of the rest of the world.

The French Government, among the first, as also the Belgian, sent a Commission to Spain to investigate the grounds of Ferran's claim. Upon their arrival in Spain they laid down a programme for Dr. Ferran, but he refused to follow it, suggesting, on the other hand, one of his own for them to follow. The result, as you know, was that the official investigation of the Commissioners ended before it began, and the Commissioners went back to their respective countries, much chagrined, and reported unfavorably to Ferran. Still the medical profession and the public of France were not quite satisfied with this report, and another Commission was sent, with Dr. Brouardel at its head, associated with two other physicians, one of them a recently graduated medical student, who was selected mainly on account of his knowledge of the Spanish language. (Neither Dr. Brouardel nor the other Commissioners were able to speak Spanish, and none of them, by the way, were bacteriologists, however distinguished they are in other respects.)

The second Commission met with pretty much the same reception as had the first, and undertook to enforce the same sort of programme which the first had attempted to lay down for Ferran, and with no better results. After breaking off negotiations with Ferran, the second French Commission undertook to collect the statistics then existing (they were in Valencia in the summer) of the results of the human inoculations which were being so extensively practised by Dr. Ferran. In the meantime, however, the Spanish Government itself had appointed three Commissioners to investigate the Ferran question, and those Commissioners had reported that the inoculations were harmless, and that they were made with pure cultures of the comma bacillus of Koch, thus exploding many widely published statements to the contrary, and recommended that they be continued. The statistics collected for, and presented to, the Minister of Commerce of France by the second French Commission, and the criticisms which have been made concerning them, are practically the only *quasi*-reliable data which the rest of the world had of the results of the inoculations in Spain. The objections raised against the statistics obtained by Dr. Brouardel (such as they were, strongly in favor of the claims of Ferran), were that they were not detailed enough; that they did not have any real official character, and that they were collected by the partisans of Ferran. The judgment of the world, myself among the number) of course naturally was most uncomplimentary to Dr. Ferran and to his anti-choleraic inoculations. When I reached Spain, however, I found that by that time the official statistics had been collected, and that they had been collected, not by the partisan's of Dr. Ferran, but by the representatives of the Spanish Government, who from the known history of the Ferran question in Spain, at least, cannot be accused of being friends of Ferran.

The Provincial Governments are somewhat peculiar in Spain in that these Governments change with the changes of the Cabinet at Madrid; so that the Provincial Governors always reflect the sentiments of their respective ministers at Madrid. It is no secret in Spain, but very well-known that the Ferran inoculations received no favor, and, in fact, active hostility from the Minister of the Interior at Madrid, and the same sentiments towards Ferran personally and towards his work were reflected among the political officials throughout the various provinces in Spain wherein the inoculations were practised. The same also may be said with regard to the Governments of the municipalities; they were also subject to the political influences of the Provincial Governments, and therefore also to those of the Government at Madrid. The Spanish Government ordered at the time of the appointment of the second Commission that official and careful statistics should be collected concerning the Ferran inoculations, by the usual or by special officers for that purpose. In this manner provision was made for the collection of official statistics, which, by the way, had been collected and published some weeks and months after the publication of the unofficial statistics obtained by the Brouardel Commission. The official statistics are signed and attested, in the first place, by the physicians of the villages where the inoculations occurred; in the second place, by the municipal judge; in the third place, often also by the president judge of the judicial district in which the village is located; in the fourth place, they are attested by the curé of the parish; in the fifth place, by the secretary of the municipality and by the mayor; and lastly, they are attested by the notary public of the district. So that, of official formality, there seems to be no lack.

These official statistics, whatever value they may otherwise have, cannot now be subjected to the same charge which Brouardel made, very justly, against those which he obtained. They still lack detail in many respects, usually failing to indicate the social position and the hygienic surroundings of the persons attacked or inoculated. Such as they are, however, they seem very strongly to support the claim of Ferran that there is an immunity against cholera, produced by the inoculations of the comma bacillus of Koch. The nature of these statistics is such, and their results so striking, notwithstanding their great faults, that it now seems to me imperative that Governments of Europe and of this country, and serious scientists throughout the world should reëxamine this whole matter for the purpose of getting at the real truth of the question as to whether there is or is not an immunity produced by the inoculations of cultures of the comma bacillus of Koch.

I referred a few moments ago to these inoculations being the only ones which were made with the comma bacillus to any extent in the human subject. Ferran himself, and one or two other investigators, as a basis for attempts at inoculation in man, claim to have produced immunity in the inoculated Guinea-pig. I may say just at this point that I was very much surprised in India in an interview with Dr. Cunningham, the celebrated cholera authority there (known throughout the world for his investigations), who told me most positively that he had produced such a condition in Guinea-pigs which he had inoculated hypodermatically with cultures of the comma bacillus of a certain amount, that it was impossible to kill the same pigs with subsequent inoculations which in fresh Guinea-pigs would prove certainly fatal. This is, perhaps, the most important confirmation which the statement of Ferran concerning an immunity produced in animals by means of inoculations by the comma bacillus of Koch, has yet received. I mention this point for what value it may have. I refer to it, also, as an interesting matter, because it shows that Dr. Cunningham, who, after the departure of Koch from India, set himself to work seriously to investigate the relations of the comma bacillus to cholera has radically changed his views concerning Koch's discovery since prosecuting those investigations. From an opponent he has come to be a strenuous advocate of the first part of the claim of the German Commission; that is, that, with the comma bacillus, we have found a reliable means of diagnosis of Asiatic cholera.

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One of the statements made by the foreign official Commissions that went to Spain reflected very severely upon the knowledge of Dr. Ferran of the rudimentary principles of histology, bacteriology and microscopy. I can only say that my personal experience in Dr. Ferran's laboratory was entirely different from that. I have photographs of some of his preparations, and I venture to say that no handsomer photographs have been made with a microscope anywhere in the world, and no more handsomely stained preparations of the comma bacillus, and no more pure specimens of the comma bacillus in gelatine have I seen in the laboratories of Berlin or of Paris than I saw in Dr. Ferran's laboratory, modest though it was, in the city of Tortosa, where he lives. I may say that, although Dr. Ferran may be mistaken, and probably is, in some of his claims, especially with regard to the morphology of the comma bacillus, and he may also be mistaken in his views about inoculation, my own personal experience with him, and what I could learn from disinterested sources in Spain from all sides, leads me to believe that, instead of being the charlatan he has been represented, he is a gentleman, in the first place, and in the second place, a well-informed physician, an investigator and a microscopist of no mean skill; and that whatever he may have stated about this matter of anticholeraic inoculation, it is his honest belief.—*Journal of the American Medical Association.*

SUPRAPUBIC CYSTOTOMY—ITS TECHNIQUE ILLUSTRATED BY ANATOMICAL PREPARATIONS.

By Frederic S. Dennis, M.D., Professor of Surgery in Bellevue Hospital Medical College, New York.

[Read before the American Surgical Association, May 11, 1887.]

The revival of suprapubic cystotomy awakes great interest among surgeons throughout the civilized world. In former years the high operation was reserved for large calculi which could not be removed by any of the perineral operations. The weight of mortality was so high that the operation was considered justifiable only in extreme cases. At the present time, through the influence of the writings and demonstrations of Garson and Petersen, suprapubic cystotomy has become a recognized operation for the removal of calculi of all sizes and of all descriptions and under all conditions.

In addition to the removal of stone, the high operation has opened up a new field to the practical surgeon. Vesical tumors and ruptures of the bladder are now operated upon where heretofore no operation was performed. This great change in operative procedure has been brought about by anatomical demonstrations and by experimental work upon the cadaver. The results of these experiments have proved the safety of exploration of the bladder by the sectio alta. It is interesting to observe in this connection the different stages through which the operation has passed, from the earliest recorded dates down to the present time.

In studying the history of the operation in chronological order, one is forcibly impressed with the fact that the present complete and perfect method of performing epicystotomy is not due to the entire work of any individual. The operation, as it is now performed, according to the technique recommended by Garson and Petersen, has been the result of a gradual growth and steady development. The work of the anatomist has been supplemented by the surgeon. Practical applications have been made of knowledge obtained by experimental work. Suprapubic cystotomy of the present century differs from the suprapubic cystotomy of the sixteenth century only in the perfection and completion of the details. The same general principles were formerly recognized, as I shall endeavor to point out, and it has been through the improvement of these different methods that the present complete operation has been perfected. In other words, improvements in the technique, rather than the introduction of any new principle, have given us this eminently satisfactory operation. I shall endeavor to prove that the suprapubic operation of to-day owes its parentage to the original operation.

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A brief historical sketch of the suprapubic operation is pertinent, in order to appreciate the important changes through which this operation has passed. There is no authentic description of the suprapubic method until it was performed by Pierre Franco in the year 1561. Franco performed the operation upon a boy, but did not commend it to the profession. Rousset, in 1581, wrote a careful description of the operation, and highly commended it to the profession. Rousset's paper deals with the operation from a theoretical point of view, and King Henry VIII. promised him several criminals for experimental work in order to demonstrate the operation in a practical way. The king died and Rousset was unable to prove the value of his suggestion by any demonstration upon the live human body. The operation now fell into disuse until 1635, when Mercier advocated it in a thesis before the Faculty of Medicine in Paris. Bonnet performed the operation with success in 1681 at the Hotel Dieu. Proby, in 1694, explored the bladder by the high operation for the removal either of a calculus or a foreign body. Historians do not agree in their accounts as to the object of the operation. Such is the brief historical sketch of this formidable operation until John Douglas, of London, reported four successful cases in 1723. Cheselden, in this same year, published a paper upon the operation, and afterward became its great champion In 1727 Douglas had performed the operation nine times, with but one death; and Cheselden six times, with but one death. Thornill had twelve cases and only two of them died. McGill had five cases.

At this epoch, when the results were comparatively brilliant, the introduction of the infrapubic operation caused the suprapubic operation to fall into disrepute; not on account of its failures, but owing to the great *éclat* with which the perineal operations were received. Cheselden improved and developed the perineal method of the monk Frère Jacques, who began his operations in 1695, and of Rau, the Holland surgeon, and Cheselden then became the champion of the perineal operation, as he had been of the high operation. The suprapubic method was but little practised until Frère Comes revived the operation, and in 1779 published a description of his own method of performing suprapubic lithotomy. He made an opening in the membranous portion of the urethra, through the perineum (boutonnière), for the purpose of introducing a sound with a stylet (sonde á dard) in order to pierce the bladder just behind the symphysis pubis.

Since the time of Frère Comes the suprapubic operation has been seldom employed until the introduction and practical application of Garson's and Petersen's experiments. From its earliest history to 1851 Gunther could only collect 260 cases. From 1850 to 1879 there were but few cases reported. From 1879 to the present time the suprapubic operation has been performed by many surgeons, and with such uniform success as to attract the undivided attention of surgeons throughout the civilized world. Reports of the brilliant success which has attended this modified suprapubic operation come pouring in from every land, and the time has now arrived when the shackles which have hitherto trammelled this operation shall be thrown aside and the results critically examined in an impartial and honest spirit.

The prophetic words of Dr. Roberts, uttered at a former meeting of this distinguished Association, in which he stated "that within ten years the suprapubic operation will be the operation adopted for all cases of stone that are not treated by Bigelow's operation," are now almost realized. I would venture to remark that the time is not far distant when there will be but practically two operations for stone in the bladder, the suprapubic lithotomy and litholapaxy. If future experience demonstrates that a return of calculus occurs in a fair percentage of the cases after lithotrity from débris left behind, and that the mortality of the suprapubic is reduced to a figure equal to, or less than, perineal lithotomy, then suprapubic lithotomy with its special advantages, will be the recognized operation of the day. If it can be shown that the mortality in the suprapubic operation is due, in great part, to causes which may be prevented in these days of antiseptic surgery, there is no doubt as to the future of the operation. It is simple in its tecnique, safe in its execution, radical in its results, free from injury to the reproductive organs, curative in its application, and, finally, brilliant in its statistics. With all these advantages, time will soon determine the place which this operation is destined to take among the recognized surgical operations. On the other hand, the many and serious accidents which follow the lateral operation are avoided.

The technique of the operation of opening the bladder by the suprapubic method is worthy of consideration. A few days previous to the operation the patient can be put upon a milk diet, and the day previous to the operation the bowels should be freely moved by a dose of castor-oil, and the morning of the operation an enema should be given, so as to empty the rectum for the introduction of the rubber bag. The hair should be shaved from the pubes and the parts should be thoroughly washed and scrubbed and irrigated with a solution of bichloride of mercury or carbolic acid. This ablution should be repeated at the time of the operation. The patient being fully under the influence of ether, is prepared for the operation. The surgeon should first introduce the India-rubber bag into the rectum. The bag should be oiled and should be carried well up the rectum so as to be above the internal sphincter. Into the rubber bag are injected, slowly, twelve ounces of warm water; at least I would recommend this quantity as the standard, and from it the amount can be slightly increased or diminished, according to individual circumstances. Instead of water, air can be used to inflate the bag, as suggested first by Milliot in 1875, at Lyons; but the water, for obvious reasons, is preferable. If the patient is a boy, instead of an adult, less than twelve ounces of warm water must be injected. The surgeon should bear in mind the danger of rupture of the rectum, especially in elderly people and young boys, and exercise judgment in regard to the proper quantity of water to be injected in any given case. Serious mischief has followed the careless use of the rubber bag during dilatation of the rectum. In one case, where 18 ounces were used, the rectum was lacerated.

The next step in the preparation of the pelvic viscera for the suprapubic operation is the distention of the bladder. Here, again, the surgeon must be very cautious lest he inject too great a quantity of water. A silver catheter should be passed and all the urine drawn, and then into the empty bladder about half the quantity of water should be carefully injected that was used to distend the rectum. The quantity should be about six ounces; at least this amount might be taken as a safe standard and variations made according to individual circumstances. The liquid should be antiseptic, and the best is Thiersch's solution, which contains borosalicylic acid. The solution should be slowly injected, and the surgeon should notice the ascent of the bladder above the pubes. He should also observe the amount of resistance offered to his hand during the distention of the bladder. The same caution here is advised as during the dilatation of the rectum; because any undue force might rupture the bladder, as has happened in several experiments. An India-rubber tubing can be passed around the penis after the catheter has been removed to prevent the escape of the antiseptic fluid which has just been injected for the purpose of distending the bladder. If the assistant's finger is placed over the open mouth of the silver catheter, or, better, a small plug into the end of the catheter, the escape of the fluid will be prevented, and the silver catheter will also serve as a guide to cut upon when the bladder is exposed. This use of the catheter avoids the necessity of withdrawing the instrument and of reintroducing another into the bladder to serve as a guide to cut upon after the viscus is exposed in the wound. The distention of the bladder after dilatation of the rectum increases the distance nearly three inches between the symphysis pubis and the anterior cul-de-sac or pubo-vesical fold of the peritoneum. The membranous and prostatic portions of the urethra are stretched, as has been shown by Sir Henry Thompson.

The patient being placed upon his back, with his pelvis elevated so as to cause the abdominal viscera to gravitate toward the diaphragm, is now ready for the operation. The surgeon stands on the left side of the patient and makes an incision three or four inches in length from below, beginning at the pubes and extending upward exactly in the median line of the body. The skin, fasciæ and cellular tissue having been divided, the linea alba is now exposed. The surgeon cuts along the raphe upon a grooved director between the pyramidales and recti muscles, dividing also the transversalis fasciæ. It sometimes happens that the pyramidalis muscle is exposed by cutting the sheath of the rectus instead of going exactly through the linea alba, and the operator must remember that there is no posterior sheath to the pyramidalis, but only the transversalis fascia. The fascia must now be carefully divided, and the surgeon next exposes a small space filled with fat and loose connective tissue. Before disturbing this tissue a retractor can be placed in the wound, and this retractor, which is made like an eye-speculum, holds the edges of the wound apart and enables the surgeon to command a good view of the parts and to work with greater facility. The use of the retractor suggested itself to me by its employment in the operation for tracheotomy, where I have found the eye-speculum of great help in holding open the wound while making the deep incisions in order to open the trachea.

The fingers of the surgeon should now be introduced into the wound where he can feel the distended bladder. The loose connective and fatty tissue overlying the bladder should be carefully separated with the handle of the scalpel, then the upper surface of the bladder is brought fully into view, with its veins and muscular fasciculi showing on the surface. The surgeon should carefully avoid tearing up the cellulo-adipose connective tissue between the pubes and the neck of the bladder, as this might afford an opportunity for urinary infiltration.

The point of the silver catheter can be felt within the bladder upon its anterior wall, and this can be relied upon as a guide.

If any uncertainty exists as to whether the peritoneum is out of danger, the surgeon should examine to see if there are two sliding surfaces lying over the beak of the catheter, and if there is a distinct transverse raphe over the summit of the bladder. If only the wall of the bladder is present the surgeon can seize the viscus with two delicate tenacula, and having observed that all hemorrhage and oozing have ceased, open the bladder between the two tenacula and over the point of the catheter.

The walls of the bladder, especially the mucous membrane, are often very much hypertrophied, as a result of the irritation from the stone. The small opening in the bladder is now enlarged by a probe-pointed bistoury in the direction downward toward the symphysis pubis; but never below toward the neck of the bladder and urethra. This last incision would be fraught with great danger. If the object of the operation is the removal of a tumor requiring a free exposure of the interior of the bladder, a stitch is taken in the bladder wall on each side of the incision, and the wound held apart by the suture. The threads also prevent the dipping down of the bladder after the fluid has escaped. The index-finger, first dipped into a warm antiseptic solution, is now carried into the bladder and the stone felt, and with the assistance of the other index-finger carefully lifted out of the bladder. Instead of the fingers the lithotomy forceps can be employed. If the stone is very large, it can be crushed before removal. If there is any difficulty in seizing and removing the calculus, the rubber bag can be emptied and removed and the index-finger of the assistant introduced into the rectum and the stone pushed upward so that the surgeon can easily grasp it.

The bladder can now be thoroughly washed out and a soft, flexible rubber catheter introduced through the urethra for perineal drainage. The catheter must be removed in forty-eight hours, or its presence will excite a traumatic urethritis. This complication occurred in a case last winter, in which I left the catheter in the bladder too long. An interesting clinical fact in connection with this case was the certainty of the diagnosis as to the traumatic and not specific origin of the discharge. Dr. Seymour Houghton, House Surgeon in Bellevue Hospital, examined very carefully the pus in the Carnegie laboratory, under the microscope, for the presence of Neisser's gonococci; but the staining failed after many attempts to show the special germ of this disease. I have seen a boy of ten years and a girl of eight years and also a boy of six years, all affected with gonorrhœa. The first two patients denied any knowledge as to the origin of the trouble; but when the gonococci were found and they were directly charged with it, they confessed. This complication of a traumatic urethritis serves as an important lesson to remind the surgeon not to leave the catheter in over two days. The catheter in this case was left in four or six days, but was aseptically clean. It was a desire to incur no risks of infiltration on account of the unusual size of the wound in the bladder that induced me to allow the catheter to remain longer than it was necessary.

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The patient should lie with his shoulders elevated, or upon his side, and in this way better drainage is secured. Trendelenburg recommends the abdominal position for drainage after the operation. When this is practical it is a most excellent method to establish perfect drainage.

Another question in the technique of the operation is the management of the wound in the bladder. Here an honest diversity of opinion exists among surgeons, and it is an important point for discussion in connection with the high operation. From a careful research into the meagre literature of the suprapubic operation in its modified form, and also from a limited practical experience, I feel convinced that the bladder wound, in the majority of cases, should be left open. If the bladder in an adult is sewed, the wound is most likely to reopen on account of the pathological condition of the bladder wall and the mucous membrane. In chronic cystitis there is thickening of the bladder wall and alteration in the mucous membrane. A failure to secure primary union is quite likely, and if the wound reopens the dangers of infiltration of urine and septicæmia are greatly increased. In twenty-five cases collected by Schmitz, with a view to throwing light upon this point, six of the patients died, which gives a mortality of twenty-four per cent., and in only four cases did primary intention follow. If the wound in the bladder is stitched, a natural provision for drainage is sacrificed, and on account of the unhealthy condition of the mucous membrane from a chronic cystitis accompanied by thickening of the entire bladder wall the wound is not likely to heal by primary intention. The wound opens and sloughs occur, and the result is extremely unsatisfactory.

While condemning the practice of suturing the bladder wound after removal of a calculus, the same plan is not to be followed in certain other conditions. In rupture of the bladder, for example, the wound should be sewed, but here the conditions of the mucous membrane and the walls of the bladder are altogether different. Primary intention is more likely to be secured in such a case where it would be useless to try under other conditions. If the bladder wound, after a high operation for stone, is left open to heal by granulation, it will permit the surgeon to treat intelligently a chronic cystitis. The wound in the skin can be partially closed and a large rubber drainage-tube introduced into the bladder. After a few days the urine will pass the natural way and any little overflow is cared for by the upper drainage-tube.

In young children, where suturing the bladder is likely to be followed by primary intention, the difficulties of the operation are very great on account of the extreme thinness of the bladder wall and the small abdominal wound. An attempt to close the vesical wound, therefore, prolongs the operation unnecessarily, and should not be attempted unless the bladder is fairly healthy and the patient is in good bodily condition at the time of the operation. Lembert's sutures, in close apposition, should be employed and the mucous coat must not be included. The bladder must be carefully manipulated during the sewing so as to prevent a cellulitis. After the wound is stitched an injection of an antiseptic fluid should be care fully made into the bladder to ascertain if there is any leakage· If the bladder is properly sewed no permanent drainage is indicated' but the soft catheter can be passed several times during the first twenty-four hours after the operation, and occasionally after the first day, so as to prevent any distention. The wound heals by primary intention, and this occupies only a short time.

The abdominal wound is also closed and a small drainage-tube is inserted into the lower angle of the wound. Von Bergmann sutures the bladder and packs the abdominal wound with iodoform gauze for forty-eight hours, and thus prevents suppuration. He then closes the abdominal wound in two days after removing the gauze. Schmitz (Langenbeck's *Archiv*, Vol. XXXIII, 1886) reports thirty cases of nearly seven per cent. In the thirty cases of suture about half of these cases resulted in primary union of the wound. If children and adult cases are grouped, it is estimated that in two-thirds of the cases the bladder wound reopens.

A few days after the operation the patient can sit up in bed, and an uninterrupted and speedy recovery should take place. Prof. Annandale recommends the introduction of a lithotrite into the bladder in order to seize the stone, and then to cut upon the lithotrite as a guide and remove the stone. A rubber catheter is introduced into the blades of the lithotrite through the abdominal wound and the instrument withdrawn with the rubber catheter. The drainage through the perineum and also in the wound above is the same as in the method already described.

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In conclusion, it may be said that suprapubic cystotomy, in its present form, presents to the practical surgeon a safe, reliable and radical operation. It should be remembered, however, that the newly modified suprapubic operation has not been sufficiently submitted to the crucial test of time and experience to enable surgeons to estimate accurately its value under all conditions. Hence the great danger of generalization at present. Enough has been done already to convince the most incredulous that in the removal of large stones and in tumors of the bladder there is no question as to the superiority of the suprapubic operation.

The revival of this high operation and its application in cases of traumatism of the bladder, have shown that surgical intervention can save human life where, but a few years ago, these cases were considered fatal. No one can dispute that the two recent cases of Sir William MacCormac bear brilliant testimony to this statement.

Finally, the rate of mortality by the suprapubic operation of about nine per cent. is high for a surgical operation, but a low rate of mortality for an operation performed under the conditions in which this method has been employed. In considering this mortality two facts must be remembered :

First. The causes of death in the majority of the cases are due to septic infection, and not to the immediate effects of the operation itself. The employment of more rigid antisepsis for the bladder should improve this rate of mortality. At the present time there is no ideal antiseptic especially and peculiarly adapted to vesical surgery. The attention of the Association should be directed to this important point.

Second. The largest and hardest stones have been reserved for the high operation. The patients have been, as a rule, in poor physical condition. Improvements in the details of bladder antisepsis and extension of the limits of the high operation to include stones of smaller size, but not to embrace those suitable for lotholapaxy, and an earlier period of operation, before patients are exhausted from chronic vesical irritation, will reduce the rate of mortality so as to compare favorably with any other cutting operation for stone.—*Medical News.*

ERGOTINE IN INTERMITTENT FEVER.

Dr. S. L. Savitski, writing in the *Vrach* on the value of ergotine in the treatment of intermittent fever, remarks that the drug has been used with success in the treatment of many affections, e. g., by Vidal in prolapsus recti, by Hunt and Pepper in diabetes, by Saunders, Murrell and Noakes in diabetes insipidus, by Allan for the cough in some lung-affections, by Granzio in obstinate constipation, by Gauldmel in the night-sweats of phthisis, by De Martini in spermatorrhœa, by Demange in some forms of typhoid fever, and by Girma in general paralysis. It has been also employed in chorea and in dysentery. The theory of its action in these diseases he does not pretend to expound, but he calls attention to the similarity of the action of quinine and ergotine. Both, he says, undoubtedly cause contraction of the uterus and the spleen, the effect of quinine on the uterus having been scientifically worked out in a dissertation published by T. T. Smolski in 1876, and that of ergotine on the spleen having been shown by Dobodchiki (*Vrach*, 1880) and by Semchenko (*Vrach*, 1883). This similarity led him to think that one of these drugs might serve as a substitute for the other, and he therefore made a large number of observations on the effect of ergotine upon the cases of intermittent fever occurring in the Lubinski regiment with excellent results, especially where an enlarged and tender spleen was present. He finds that a combination of ergotine with quinine acts very satisfactorily, and that in this way considerable quantities of quinine can be saved, as half the dose of quinine which would be required if given alone will suffice if combined with ergotine. The preparation of ergotine was Bonjean's, the dose in chronic cases being about a grain three times a day.—*Lancet.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

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Geo. Gillett Thomas, M. D., "
Editors.

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MALARIAL HÆMATURIA.

We have not had an opportunity to read the essay by Dr. J. M. Baker, of Tarborough on this subject, which won the Pittman prize this year, but we are convinced that it contains valuable work and will contribute largely to the solution of the vexed questions involved in the study of this disease. We have noticed that the outbreaks of this form of malarial poison do not always occur at points where other forms of the disease are commonly prevalent. For instance, in the town of Smithville (now called Southport, to please some æsthetic iconoclasts) in 1865–'66 there was almost an epidemic of this malarial fever. It had not been known before, and has not reappeared. There was not, as far as an observing physician of the place informs us, any increase of remittent or intermittent fevers, and as well as he recollected these fevers were in partial abeyance. The seasonal changes, an excess of rainfall, with alternating dry and hot spells did not prevail, which usually give origin to malarial outbreaks. Neither did such continuous winds prevail as could account for the presence of this infective material in the atmosphere, being brought in from any neighboring swamps or bogs. So, too, in Wilmington, it is a commonly known fact that the exhibition of this poison has occurred in localities not generally considered unhealthy, and, as far as we know, the sufferers were not unusually exposed to malarial infection. Among those who died of the fever several years ago in this town were more negroes than whites. We have reason to know that among the hands employed on rice plantations about here but few have suffered with this malady. These facts all point to a peculiar element in this manifestation of malaria, differing in some way yet unknown from the ordinary outbreaks of chill and fever and even the more pernicious forms of remittent fever, called congestive fever.

The symptoms attending the cause of attack very often closely resemble those belonging to the intermittents, the attacks beginning with a chill, running a definite course of fever, with subsidence of fever marked by a disappearance of the peculiar characteristic of the disease, that is, the dark, bloody urine, and a reappearance of the hæmaturia is ushered in again with a chill and the same train of symptoms as above. So far as our observations have gone, there never has been any unchanged blood in the urine, and we have seen the urine in a very short time after it was passed. There was always a dark deposit, bromaist, with small black particles in it. There never was a clot present in the specimens we saw, nor did one ever form in them, though reliable physicians report these coagula as appearing now and then. The microscope has never shown us any blood-corpuscles in our work, and the only show of blood has been the granular débris of hæmalobiliar, epithelial scales, renal casts, mixed with certain other deposits of the urine. The brunt of the attack has seemed to us to be put upon the liver, and the kidneys have suffered afterwards because of the failure of the liver to prepare the excrementitious receptacles for their work. The icteroid here that attends these attacks are rather more like the fading yellow of blood extravasations under the skin, and bear some of the colors of hæmoglobin. As the liver is normally engaged in the separation of some of the elements of danger from the blood that passes with it from the portal system, and in this cleansing process, along with it, destroys a certain quantity of red blood-corpuscles and the fibrin to the same extent, freeing so much of the hæmoglobin as may be needed to make up its own coloring matters, may not the presence of the peculiar poison of malaria, be it microbe or ferment, in the circulation, exaggerate this work and overload not only this organ, but all the emunctories directly or indirectly connected with it? There are two clinical facts in the treatment that are not yet other than empirical—that quinine and some form of the cathartic mercurials will best serve the therapeutic indications, and that astringents or hæmostatics do not affect the appearance of the urine in the quantity of bloody-looking deposit in it.

The findings of Laveran, as set forth by Sternberg, and the subsequent verification of Laveran's statements by Sternberg's experiments, seem to us to be a far better explanation of the action of the malarial poison by the presence of germs than the theories of Klebs and his disciples. The microbes of Laveran were not only present in the moving circulation, but they actually infested the red corpuscles and apparently entered the cell walls, destroying or affecting the integrity of these bodies. Moreover, culture fluids containing these microbes under the influence of quinine were sterilized, and the quantities necessary to effect this were such as to indicate that in seeking to accomplish the cure of malarial disease, these microbes being the cause, that the antiperiodic doses of the cinchona alkaloids must be such as would agree with the quantities given to destroy the germ in the cultures, whereas the opposite condition obtains with the bacillus malariæ of Klebs and Tommasi-Crudelli. The microbe of Laveran, invading and probably destroying the red corpuscles, may afford some explanation of the anæmia that attends malarial fevers, and probably likewise explain some of the peculiar and distressing symptoms of hæmorrhagic malarial fever. We are pleased to know that such earnest work is being done among our members to solve the mysteries that surround this much dreaded disease, and shall read Dr. Baker's essay with interest and profit.

RESULT OF THE STATE EXAMINATIONS FOR LICENSE IN 1887.

College.	Total Applied.	Passed.			Withdrew or Rejected.			
		Graduate	1 Course.	Total.	Graduate	1 Course.	2 Courses.	Total.
No College	1	......	......	......	......	......	......	1
University of Maryland	13	9	1	10	1	1	1	3
Louisville Medical College	2	1	......	1	1	......	......	1
Jefferson Medical College	6	6	......	6	......	......	......	......
L. I. Hospital College	1	1	......	1	......	......	......	......
Bellevue Medical College	4	2	......	2	1	......	1	2
University of New York	7	7	......	7	......	......	......	......
College of P. & S., Baltimore	6	4	......	4	2	......	......	2
Vanderbilt University	4	1	......	1	2	2	......	3
Atlanta Medical College	2	2	......	2	......	......	......	......
Baltimore Medical College	1	......	......	......	1	......	......	1
Uni. of Va. and Va. Med. Col.	1	......	......	......	......	......	1	1
Total	48	33	1	34	8	3	3	14

We give above an analysis of the work done by the Board of Medical Examiners at their last annual meeting in Charlotte in April.

The Board is authorized to examine all candidates applying, regardless of diplomas, so that we give in the table the results as they are, calling attention to this fact, that, while we give the names of colleges in cases where first course and second course (but rejected) students were rejected, it is plain that in such cases the good name of the college is in no way stigmatized. Three of the rejected candidates, it appears, were rejected second course students from three different colleges.

The Board, with very many less candidates than at the Durham meeting, in 1885, were severely burdened with these forty-eight candidates, because of the thoroughness of their work and the necessary elevation of the standard which they aim at every year. We commend the diligence of the Board and the fairness of the examinations, and beg leave to assure them that their progressive elevation of the standard for the minimum candidates is highly to be commended, and is entirely in accord with the opinion of the best element of the profession. As conservatism and justice have marked the career of the present Board—not applying the just law entrusted to them with too great rigor, but tempering it with that discretion which could only be dictated by thorough knowledge of the difficulties which attend the medical education of our young men—so it will in the future; but we are sure that they can perpetuate this honorable record, and at the same time lessen the distance in a very considerable degree between the maximum and minimum standards, and this they are doing.

It is easy enough to read the signs of the times as to the public opinion on this subject, for it is undoubted that the people are in hearty accord with the law, and themselves demand a higher standard.

What must come next is to reënforce the law so as to make it apply to the travelling M.D's—medical sharks—who, holding the diploma of a *regular* medical college, are disgracing the profession by "lying wonders," while at the same time complying with the letter of the law as it now stands.

His Excellency, Gov. Scales, has appointed Prof. W. G. Simmons, of Wake Forest College; Mr. Arthur Winslow, C. E., of Raleigh, and Dr. J. H. Tucker, of Henderson, as members of the State Board of Health. The first two of these gentlemen have already served a term on the Board and been most efficient members. Prof. Simmons has served as the meteorologist of the Board, and has likewise contributed a most valuable paper upon illuminating oils. Mr. Winslow's studies of water supplies and the direction for the best method of securing and maintaining good water, as well as his services in the selection of the water supply of Raleigh, have made him a most valuable member of this department. Dr. Tucker has the confidence of those of the profession who have the pleasure of his acquaintance, and has held for some years the esteem of the State Society. His entrance into the sanitary department of the State ensures an honest and intelligent worker, and we congratulate the Governor upon his admirable choice.

REVIEWS AND BOOK NOTICES.

Nervous Diseases and their Diagnosis: A Treatise upon the Phenomena Produced by Diseases of the Nervous System, with Especial Reference to the Recognition of their Causes. By H. C. Wood, M.D., LL.D., Member of the National Academy of Science. Philadelphia: J. B. Lippincott & Co. 1887.

The works on diseases of the nervous system during the short period which has elapsed since the war, have increased until there are now several good text-books, but none of them have been written especially from the clinical standpoint. The merit of this volume appears to us to be chiefly that it was constructed with the design of giving to the practitioner who is not a specialist the result of long observation at the bedside of diseases of the nervous system. As the author declares in his introduction, hitherto authors of text-books have travelled from the lesions to the symptoms; the present treatise is an attempt to follow the road which the practitioner must pass over largely, that is, from the symptoms to the lesions. In this introduction great pains is taken to show that neurasthenia is not a disease, but a bodily condition which is frequently associated with various chronic disorders, and not rarely coexists with perverted functional activity of the nervous centres, which perverted nerve functions may, however, exist independently of any perceptible neurasthenia, and are not simply outcomes of neurasthenia. It is an habitual foundation for hysteria, chorea, insanity and various nervous diseases, but may exist without the superaddition of any of them.

The first chapter begins with paralysis, and the first diagnostic division is the difference between true, organic palsy and that which is assumed, hysterical or reflex in its nature. Clinical pictures are drawn of each one of many forms of paralysis, the chapter concluding with local paralyses. The second chapter, under the head of motor excitements, discusses convulsions, choreic movements, tremors and automatic movements, to which, for convenience, the author has added a description of contractures. The third chapter is devoted to reflexes, that is to say, certain movements or torsions of the body which are directly produced by external irritations, which the author has divided into two varieties, the superficial and deep—those movements which are produced by irritation of the deeper tissues. The disturbances of equalibration is the subject of the fourth chapter and includes disturbances of coördination, cerebellar titubations, or lesions affecting the middle lobe of the cerebellum, causing peculiar disturbances of the mind, and finally vertigo. The different qualities of vertigo which are enumerated under the heads of organic, cardiac, epileptic, hysterical, peripheral, vertigo of the special senses, toxæmic vertigo, and finally, causes which at present have no explanation. This chapter is very instructive and will be found useful to all who consult it.

Trophic lesions, sensory paralysis, exaltations of sensibility, dis turbances of the special senses, hearing, sight, taste and smell, disorders of the memory and consciousness, and the disturbances of intellection conclude the last chapters of the book.

The arrangement of the volume is not calculated to entice one to read it superficially, neither is it well adapted for hasty consultation; but it is very evident that this volume, if carefully studied, will be a favorite with those general practitioners who are obliged to rely upon themselves in these studies, as in all others, and will doubtless give renewed interest to the study of nervous diseases which heretofore have been difficult and obscure.

The Lomb Prize Essays.

It is well known that several years ago Mr. Henry Lomb, the famed microscope-maker of Rochester, N. Y., offered through the American Public Health Association valuable prizes for the best essays on hygienic subjects, and the volume before us contains in full the four essays for which prizes have already been awarded. The subjects of these essays are, 1st. "Healthy Homes and Food for the Working Classes," by Victor C. Vaughn, M.D , Ph.D., University of Michigan ; 2d. "The Sanitary Conditions and Necessities of School-houses and School Life," by D. F. Lincoln, M.D., Boston, Mass.; 3d. "Disinfection and Individual Prophylaxis Against Infectious Diseases," by George M. Sternberg, M.D., U. S. A.; and 4th. "Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them," by George H. Ireland, Springfield, Mass.

These books are published for distribution among all classes of people, and are especially designed, according to the wishes of Mr. Lomb, the benefactor, to aid people of limited means, generally spoken of as the working classes, to make their homes more healthy, to teach them which foods are healthy, to teach them to avoid all causes of disease, to teach the principles of hygiene in schools, to teach the simplest methods of disinfection and care for the prevention of infectious diseases, and many other topics of practical use in every-day life to every citizen, rich or poor. These essays have now reached a second edition, and are offered to the public at a small nominal price, bound or unbound. The unbound pamphlets are issued either collectively or each one separately, and can be had for distribution at a very small cost, and, in fact, the Secretary of the Association, Dr. Irving A. Watson, Concord N. H., is authorized to present a copy of either of these essays, or all of them, to any one who will promise to read them. The American Public Health Association has worked as a rather close scientific body, and of necessity, for all these years of its useful existence, but the work accomplished has been of the most substantial sort. Evidence of this is that they have been made the medium through which such a great benefaction has been bestowed, and we trust that it will be the recipient of the benefaction of many other such generous men as Mr. Lomb in the future.

Principles of Hygiene for the School and the Home, together with so much of Anatomy and Phgsiology as is Necessary to the Correct Teaching of the Subject. By Ezra M. Hunt, A.M., M.D. Sc. D. Pp. 382. Ivision, Blakeman, Taylor & Co., New York and Chicago.

Sometime ago we had occasion to point out what a text-book on hygiene should not be; we have found, at last, what a school text-book of hygiene should be.

Its author, Dr. Hunt, has been for many years a teacher and a student in the most eminent sense, of hygienic subjects. He is now, and has been for years, Secretary of the New Jersey Board of Health, directing and compiling the vital statistics of that State, and has taught the principles of hygiene in the New Jersey Normal School.

Dr. Hunt's plan is an original one, and his design is well conceived.

After a general introduction to the study of hygienics, he considers the earth as related to human health, water in its relation to health, and air, light, sun-heat and climate in the same relation. This is followed by short lessons in the anatomy of the human frame as related to the hygienic care of the body. A more particular account is given of the muscles, in order to inculcate the principles of healthful exercise. "The skin, its functions and its care," is dwelt upon with due emphasis, bathing and baths getting a proper share of consideration. This chapter is followed by one on *clothing* and our habitations, which includes special advice about the protection of the most vulnerable parts of the body, and all is told with wisdom and good sense. The next three chapters describe the physiology of circulation, respiration and digestion, and this naturally leads on to the consideration of foods and stimulants. The amount of genuine information in this section of the book is admirable, and if mastered by teachers and scholars it would be an almost complete guide to healthful eating and drinking. The chapter on the effects of stimulants is told with candor by a physician of practical, and a hygienist of ripe wisdom, and is entirely free from the florid, overstated matter we have had occasion before to condemn.

The great question, the perplexing question of teachers and patrons of schools—*heating and ventilation*—is here set forth in plain, practical principles, which every teacher and parent would do well to master, and this is followed by special consideration of "*the school and its appointments*, and the disposal of refuse.

The work is brought to a close by the consideration of the nervous system and its relation to health, the senses in general, and all concluded by a special chapter on vision.

We have given a hurried review of the contents of this excellent volume, and only wish it could be adopted in our schools for children of all grades. This would be impossible, but for the scholars of the higher classes it might well be adopted as an essential text-book. We would suggest, indeed urge it, if we thought it would have the desired influence, that all teachers in our public school organization should be required to master this volume, and give at least once a week lectures to all classes in the general assembly room of the school on hygiene as here taught. Furthermore, it would be well if all school boards would master the teachings of this volume, and strive for the steady improvement of the school rooms under their direction. Much cheap and superficial instruction is indulged in on the subject of hygiene, but what the public needs is instruction given from the well-furnished brains of teachers who understand the subject they teach, and are heartily impressed with its importance. Many teachers will be disappointed that Dr. Hunt's volume is so large, but a more condensed statement of his subject would have sacrificed much that is of real value, and the conscientious teacher will find he cannot do with less.

The mechanical execution of the volume is very good, including the illustrations.

Medical and Surgical Memoirs, 1855 to 1886. Vol. II. Containing Researches on the Origin and Effects of Endemic, Epidemic, Contagious and Infectious Diseases, etc., etc. By Joseph Jones, M.D., Professor of Chemistry and Clinical Medicine, Medical Department Tulane University of Louisiana, etc., etc. Published by the Author. New Orleans, La. 1887. Pp. 1,348.

The students of medicine during the last quarter of a century in this country have known the author of these Memoirs as a laborious worker and intelligent observer of disease. His whole professional career has been marked by his active pursuit of the cause of malarial diseases, as they presented themselves in manifold ways in this Southern country. As an authority on these diseases Dr. Jones has been therefore long esteemed, and we regret that ill-health and the difficulties attending the issue of the book has so long retarded the publication of his life's best work. There is contained in it a very great deal of clinical material that is in no wise connected with the important topic which gives the value to this work—which is devoted to a careful consideration of the endemic fevers of tropical and temperate climates, that is, the different forms of malarial fever. We say that the introduction of these clinical and experimental studies are to be regretted, because, as the author has endeavored to write a full history of most of the diseases which he brings before his readers, the volume is extended beyond its legitimate bounds, and the reader finds himself drawn away from the author's thoughts on malarial diseases by the interpolation of histories of diseases remotely, if at all, germane to these subjects.

The elaboration of physiological facts might have been left out of a volume of this character, as, for instance, the extensive treatise on the blood of man and animals which introduces his opening chapter on malarial fevers. Following this is a comparison of the pathological condition of the blood in diseases other than malarial, as diabetes mellitus, and into this chapter Dr. Jones has introduced a study of diabetes and its treatment with a great deal of anatomical and physiological matter that is unnecessary. Dr. Jones is an ardent disciple of the germ theory of diseases, and in approaching the determination of the germal origin of malarial diseases, he has gone over the whole field of micro-organisms. And in this connection we may illustrate our idea of the uselessness of the introduction of subjects which are so irrelevant. After beginning a recital of his studies in the separation and classification of the micro-organisms of malarial disorders, he introduces a long history of a criminal trial, in which he as an expert determined the presence of human blood from a person infected with malarial poison. The trial is set forth with elaborate preamble and details, all of the official red tape attached to his summons as a witness being printed in full. There is a consolation to the author, no doubt, in having so scientifically aided the authorities, in the fact that the jury gave a verdict for the State, and the proof or evidence upon which it rested seemed chiefly the testimony of the expert.

But let us turn to the portion of the book that is of great value. Following the teachings of the bacteriologists and the results of his own work, the author unhesitatingly declares that there is a specific set of germs that attend the paroxysms of malarial fever. There are indisputable proofs to his mind, and we feel that he is largely correct, that there are more than one form of micro-organisms engaged in the production of the varieties of malarial exhibitions. His attention is first directed to the destruction of red blood-corpuscles in these diseases, and he declares, what is well-known, that few affections, if any, we may add, produce such rapid and complete spanæmia as paludal fevers, and this destruction of red blood-corpuscles is attended with the deposit of a pigment in nearly every portion of the economy, and this latter feature is as constant as the former. This pigment is hematin escaped from the red corpuscles, and its presence in the bile of malaria is set forth to account for the dark hue of this fluid. To the same cause he attributes the black urine of malarial hæmaturia. He sums up his conclusions, which we briefly state as follows: Destruction of the colored corpuscles is the constant concomitant of malarial poisoning. This destruction takes place in the liver, spleen and medulla of the bones, and is due to the action of a ferment or micro-organism, and the action of this morbific element is characteristic of malarial hæmaturia as well as other forms of malarial fever. The jaundice of malarial hæmaturia is due to the coloring matter of the bile, and the deeper hue is due to the presence of the pigment in the capillaries of the skin. There is no transudation of this pigment into the tissues. The loss of blood from the kidneys in malarial hæmaturia is a true hæmorrhage; the result of a congestion and rupture of the Malpighian capillaries, the changed condition of the blood as seen in the urine being the effect of the urinary saline constituents, the presence of bile and the escaping coloring matter of the blood from the tubuli uriniferi, dissolved out by the urine.

The two next chapters are devoted to a study of the other forms of malarial fevers, and are very elaborate, though we have to contend with the frequent introduction of subjects remotely connected with the main topic, and which do not add clearness to the full text. The chapter on treatment contains a list of the indigenous remedies that have been used to prevent or relieve malarial fevers. As a historical matter this may be valuable, but we are not aware that any treatment, save the administration of the alkaloids of cinchona, has ever stood the test of continued trial, aided by judicious use of the mercurial cathartic and arsenic. We have alluded to the blemishes in this volume, and they are the more apparent because they mar a work that is so valuable. We congratulate the author on the issue of his second volume, and hope that he will receive such recognition as will encourage him to bring his experiments up to date.

AGARICUS ABUS has been successfully used by Dr. A. Peter (*Medical News*) for relieving the sweating of consumptives. Ten grammes at bed-time had a cathartic effect; but given in 5-gramme doses no such effect was observed, and in about a week all sweating ceased. When a return of the night-sweats is threatened relief is again afforded by the remedy, which has no effect upon the cough.—*Analyst.*

ORGANIZATION OF COUNTY MEDICAL SOCIETIES.

Alamance has organized a County Medical Society, with Dr. J. B. Gunter for President, Dr. E. C. Laird Vice-President, and Dr. R. A. Furman Secretary and Treasurer. A Board of Health was also organized, with Dr. George W. Long, of Graham, as Superintendent of Health.

Bertie.—At a preliminary meeting of the physicians of Bertie county to organize a County Medical Society the following were present: Drs. P. C. Jenkins, J. S. Griffin, E. W. Pugh, W. S. Gurley, B. W. Hathaway and H. V. Dunstan.

Dr. Charles Smallwood, of Lewiston, though absent, the oldest practicing physician in the county, was elected permanent President; Dr. P. C. Jenkins, of Roxabel, was elected permanent Vice-President, and Dr. W. S. Gurley, of Windsor, Secretary and Treasurer.

The following were appointed to act as Executive Committee for the balance of the year: Drs. W. B. Watford, of Coleraine; E. W. Pugh, of Windsor, and B. W. Hathaway, of Merry Hill.

On motion, it was declared that the meetings of the Society should take place in the town of Windsor on the first Monday in January, May and September, at 11 A. M.

A motion was made and passed that the Convention send a copy of the proceedings of this meeting to all physicians in the county entitled to membership, with a request that they unite with the body in its efforts towards a more perfect organization.

It was ordered that the Secretary send the records of the meeting and a copy of the By-Laws to the Secretary of the State Society, and the minutes of the meeting to the North Carolina Medical Journal and *Windsor Public Ledger*, with a request that they publish the same.

After a resolution in regard to the indiscriminate and illegal selling of poisonous medicines by country dealers and others, the Society adjourned to meet again on the first Monday in September, 1887, unless legally called before that time by the Executive Committee.

E. W. Pugh, President Pro. Tem.

W. S. Gurley, Secretary.

NOTES.

ARSENICAL ERUPTIONS.—Dr. P. A. Moroon (*La France Médicale*) has observed the following variety of cutaneous eruptions from the use of arsenic: Erythema, papules, urticaria, vesicles, pustules, ulceration, skin bronzing. In each case the discontinuance of the drug caused the disappearance of the rash.—*London Medical Press.*

HOW TO REMOVE A LEECH.—Oliphant relates in his "Haifa, or Life in Modern Palestine," that it is not uncommon for leeches, which abound in some of the springs, to attach themselves to the throat, causing much trouble. He relates one case of a Druse Sheïk who had one attached to his throat (œsophagus) so far down that it could not be reached by ordinary means. Salt and all ordinary things were tried without success. Procuring some of the leeches from a spring, experiment showed that turpentine [oil] in large quantities was the remedy.

STRICTURE OF THE ŒSOPHAGUS DILATED BY A PIECE OF DRIED PEACH.—Dr. F. C. Smith, of Aurora, Ind., reports in the *American Lancet* (June) of a stricture of the œsophagus caused by drinking concentrated lye. All fluids swallowed were at first regurgitated, requiring the child to be nourished by the rectum. Before the doctor was called in a visitor gave the patient a piece of dried peach. This he ate greedily. Suddenly, on the fifth day, he was abruptly relieved, which the doctor attributes to the dilatation of the œsophagus by the dried peach.

LANOLIN; SUINT; ŒSYPUM; WOOL-FAT.—The first name, lanolin, given by O. Liebreich, the second, suint, the old name used by the French for the crude substance—the refuse of factory washing—the third, œsypum, used by the Greeks for the fat of raw wool, and fully described in Diascoride's Materia Medica, Lib. II., Chap. 61 (N. Wulfsberg, M.D., Christiania, in *British Medical Journal*, May 21, 1887), shows how difficult it is to find anything "new under the sun." This substance is passing through a stage of probation, and at present largely monopolized by speculating manufacturing chemists. It will ere long reach a stage which will favor its application by the profession at large.

MICRO-ORGANISMS IN THE BLOOD OF CATTLE DEAD WITH MALARIAL HÆMATURIA.—In an article in the *New York Medical Journal*, April 16, 1887, reviewing an account of an epidemic of malarial hæmaturia among cattle in a malarial district of Roumania, examination of the blood revealed no micro-organisms with a power of 450 diameters, "and without staining methods being used." The *New York Medical Journal* does not draw an analogy between the disease as seen in man and cattle, but the study of the comparative pathology may be worth the whole time of those gentlemen who are re-investigating this dread malady.

ANTIDOTE FOR CICUTA MACULATA.—Mr. J. E. Whiteside reports in the May *Botanical Gazette* the case of a person who by mistake chewed and swallowed the juice of more than two ounces of a fresh root of cicuta maculata (Hemlock). The cause of serious symptoms being suspected, gave freely of warm decoction of eupatorium perfoliatum (Thoroughwort). Vomiting and sweating followed, and in an hour dangerous symptoms disappeared. It appears that two hours elapsed from the time of eating the root until the remedy was applied. There is no known antidotal power in eupatorium perfoliatum, but the success of this case should be remembered and acted upon in an emergency.

PSOAS ABSCESS.—Edmund Owen, M.B., F.R.C.S., in the *British Medical Journal*, April 23, gives some practical ideas about the treatment of *psoas abscess* which he concludes as follows: It is unpractical to look forward to the spontaneous absorption of a psoas abscess; sooner or later it must be evacuated by nature or art. In this matter art has the advantage, as by her aid the cavity can be at once emptied, cleansed and drained. The earlier the abscess is opened the better; for delay may entail the extravasation of pus and the formation of a needlessly large and intractable cavity. The abscess should be opened and irrigated from the front and drained through a counter opening in the loin. Washings and drainage should be thorough; for a small abscess the single opening in the back may suffice. Warm iodine-water [decolorised] is the most suitable fluid for irrigation; the sublimate solution [1 in 1000] is dangerous, at any rate, in a large or double psoas abscess in childhood. The most convenient dressings are bulky pads of wood-wool and gauze bags of finely-picked oakum;

they should be fixed under a towel tightly pinned as a binder. Pus may rapidly collect on the opposite side of the spine after a single abscess on the one side has been evacuated; therefore if the temperature rise and remain high after the evacuation of a unilateral abscess, the formation of a second abscess should be watched for, and it should be opened as soon as it is detected; thus convalescence may be at once established. Bilateral abscesses should be attacked simultaneously; they are likely to be in intercommunication, and the area of suppuration cannot be kept aseptic unless both sides are washed and drained.

DETECTION OF CERTAIN MEDICINES IN THE URINE.—*Iodide of Potassium.*—Mix the urine with a few drops of fuming nitric acid and about one-fourth the volume of chloroform, and shake. After settling the chloroform will show a reddish-violet tint.

Bromide of Potassium.—Add to the urine *fresh* chlorine water and chloroform, and shake; if bromine be present the chloroform will give a yellow color. Bromine is detected only when in large quantities, and the chlorine water must be fresh.

Salicylic Acid.—On adding ferric chloride to urine it will assume a bluish-violet color. If the quantity of urine is large evaporate it, or extract the salicylic acid by shaking with a volume of ether equal to the urine, and applying the test to the ether. The urine in this case should be acidulated with sulphuric acid.

Antipyrin.—Antipyrin colors the urine yellowish-red or blood-red. It is easy to confound it with urine containing blood, since either of these colored urines is red by transparent and greenish by reflected light. After the addition of a few drops of ferric chloride the color of the urine, which is reddish-yellow in thin layers, is converted into a handsome red.

Chrysophanic Acid (from Rhubarb or Senna).—On adding solution of potassa to urine voided after the use of rhubarb or senna—the urine in this case is naturally of an intensely yellow or greenish-yellow tint—it acquires a yellowish-red to red tint. The reaction is more distinct when the urine is shaken in a test-tube, and the potassa added to the ether, the latter assumes a red color at the line of contact.

Santonin gives a yellow or greenish and caustic potassa gives a red reaction. The red reaction is red as for chrysophanic acid, but can be distinguished by the fact that santonine-stained urine does not yield its coloring principle to ether, as in the case of the former.—*Abstract from the American Druggist.*

CALOMEL.

Soon, physic's Samson—thing to dread—
Bold Calomel uprears his head,
And, like wild beast in crowded cage,
He kindles with hepatic rage.
Quick as the supple leopard springs,
On threatening foes himself he flings.
With zeal and might in overplus,
Adown the dark œsophagus
He boldly leaps, prepared to win—
No gastric villus troubles him.
This noble drug, whom men deride
By calling him the Mild Chloride,
At once, indifferent to fate,
Swift rushes through pyloric gate;
By hope inspired disease to catch,
He searches well each Peyer's patch;
Along jejunal paths he speeds,
Nor puny cœcal portal heeds,
Till through the sigmoid curve he pops
Victorious and free,
Because he must, for don't you see—
Colons are not full stops.

But vain the task for me to tell
How much hath wrought great Calomel.
E'en had I speech like those of old,
That dwell on slopes of Helicon,
Ere all this Samson's deeds I'd told,
The moon would her full circuit run.
'Tis true at times he salivates
Opposing foes, and "alterates"
The blood from brain to mesentery;
But what he does, like servant true,
He does until the task is through—
Go ask the cemetery.

READING NOTICES.

A Perfect Liquid Cathartic.—I can truly say that I have frequently used "Elixir Purgans (Lilly)" with great satisfaction in cases of obstinate Constipation, and can cheerfully recommend the use of this preparation to other practitioners of medicine.

W. H. May, M.D., No. 20 W. Twenty-Fourth Street, New York City, March 23d, says: "I have had very successful results in the administration of Bromidia in cases having their origin in disorders of the nervous system, such as cholera infantum, paralysis, insomnia, etc. *But I find it to be of special value in treatment of delirium tremens and the results of debauch;* it being retained upon the stomach and speedily controlling the most dangerous symptoms, and producing the desired calmness and sleep necessary when morphia and other soporifics have failed to do so, and thus rendering the disorder amenable to further treatment. Have also prescribed it successfully in the terrible state of nervous exhaustion due to opium habitués endeavoring to relinquish the habit. And, finally, as result of experience, I pronounce it the 'Hypnotic *par excellence.*'"

From an article on the feeding of infants deprived of the breast milk, by J. Lewis Smith, Clinical Professor of Diseases of Children, Bellevue Hospital Medical College: "No physician should recommend a food as he would not a medicine, without knowing its composition, and the composition of most of the recent dietetic preparations, ending with Carnrick's, has been announced. Carnrick's food contains a large percentage of the solid constituents of milk, the casein of which has been partially digested so as to resemble the casein of human milk in its behavior under the digestive ferment. The other ingredient is stated to be wheat flour subjected to prolonged baking, so that its starch is to a considerable extent converted into dextrine. This food has the advantage of easy preparation in the nursery, and easy digestion. Used alone, it is sufficiently nutritious for the infant. It will probably supersede some of the older foods of the shops. Poor families who cannot afford to use it as the sole food, will, according to my observation, find it useful made into a thin gruel and employed in diluting the cow's milk with which these infants are fed."